1 Introduction

The range of BS2000/OSD servers has been extended by the addition of the S130 series. The spectrum of user facilities of the new models lies between the S110 and H130 server series. They are powerful systems for scientific and commercial applications.

The S130 Business Server (or cluster) has a modular structure and can easily be upgraded on site.

The main memory can be expanded by up to 8 Gbytes. Global storage (GSP or SSU) can be upgraded to a maximum of 32 Gbytes and if desired can have a battery buffer.

The input/output system consists of 1 or 2 input/output processors. Up to 248 channels can be configured for connecting peripheral devices with channel interfaces. LAN networking is possible via the 3970-SKP service/console processor, a connection to the TRANSDATA network world via front-end processors.

The service processor (SVP) and the external 3970-SKP service/console processor support common operation, monitoring, diagnosis and maintenance of the computer as well as TELESERVICE.

The models can easily be integrated into a HIPLEX network.

Like all computers in the 7.500 system family, the business server uses the BS2000 operating system. This offers the portability and compatibility of BS2000 programs.

1.1 Objectives and target group

This manual provides you with all the information you require to operate the S130 Business Server via the service/console processor, and is thus intended for operators and system managers.

Knowledge of BS2000 system operation and management as well as basic knowledge of SINIX are required.

Further manuals with information on the operation of BS2000, SINIX and TELESERVICE are listed under “Related publications” at the end of this manual.

1.2 Summary of contents

This operating manual covers the hardware operating functions of the S130 Business Server with the 3970-SKP service/console processor.

The chapters “Overview”, “Controls and indicators” and “Standard processing in SVP mode” provide information on hardware and the operating concept. You should read these chapters first.

The chapter entitled “Troubleshooting” provides valuable assistance in recognizing and solving problems.

A keyword index at the end of the manual helps you to find the relevant information quickly.

1.3 Notational conventions

Some text passages are marked using the following symbols:



Information that is particularly important for the function of the product.



Important instructions, e.g. warnings.



Reference to the “SINIX-2000 V7.0” [1] manual.

► The input symbol indicates actions which must be carried out (e.g. keyboard input).

␣ This character represents a blank in keyboard input.

[...] References to relevant literature or optional parameters in commands are given in square brackets.

`This typewriter font` is used for names, commands and messages (e.g. the `/DET␣*CHA(xx)` command).

2 Important instructions

This chapter covers the most important safety instructions. It also includes some manufacturer instructions and notes on radio interference.

2.1 Safety instructions

This device fulfills the prevailing safety requirements for information technology equipment, including electrical office machines.

- In emergencies (e.g. damaged housing, operating elements or network cables, entry of liquid or foreign objects), switch off the device immediately (EMERGENCY STOP) and contact our service department.

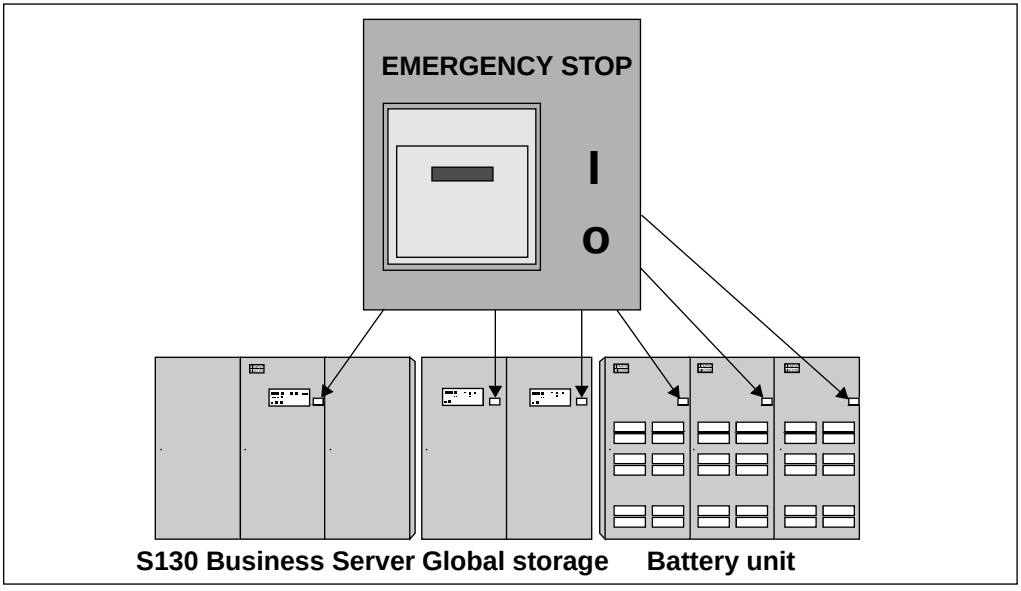


Figure 1: EMERGENCY STOP switch on the S130 Business Server, global storage and battery unit

- The system must have a direct power supply for safety reasons. The systems may only be installed by authorized trained personnel.

- The cables must be laid in such a way that there is no danger of anyone tripping over them and they cannot be damaged.
- Data transmission lines must not be connected or disconnected during electrical storms.
- Ensure that no foreign bodies (e.g. necklaces, paperclips etc.) or liquids find their way into the device (danger of electric shock, short circuit).
- Repairs to the device may only be carried out by authorized and trained personnel. All areas which are secured by locks or can only be opened using tools are maintenance areas and may only be accessed by trained personnel.
 Unauthorized opening of the maintenance area and improper repairs can be dangerous for the user (electric shock, danger of fire).

2.2 Manufacturer instructions

CE This product complies with the EC guideline 89/336/EEC "Electronic Compatibility". The product bears the EC certificate.

2.3 RFI suppression

⚠ **WARNING:** This is a class A equipment. This equipment may cause interference to radio and television reception in a residential installation. If it does cause interference, the user may be requested to take appropriate corrective measures at his or her own cost.

The devices generate and emit high-frequency energy.

If the devices are installed and used other than as instructed in the manual, failures in the devices or other electric systems may occur. If failures of this type occur it is the task of the user to carry out measurements and implement measures to solve the problem. Only the cables supplied with the system or recommended by SNI may be used.

All other devices which are connected to the present product must be radio interference suppressed in accordance with BMPT Order No. 1046/84 and Order No. 243/91 or EU Directive 89/336/EEC. Products which satisfy this requirements are provided with an appropriate certificate by the manufacturer and bear the CE mark or the interference suppression symbol.

3 Overview

This chapter provides information on the configuration levels and the configuration of the S130 Business Server series and the concept of system operation.

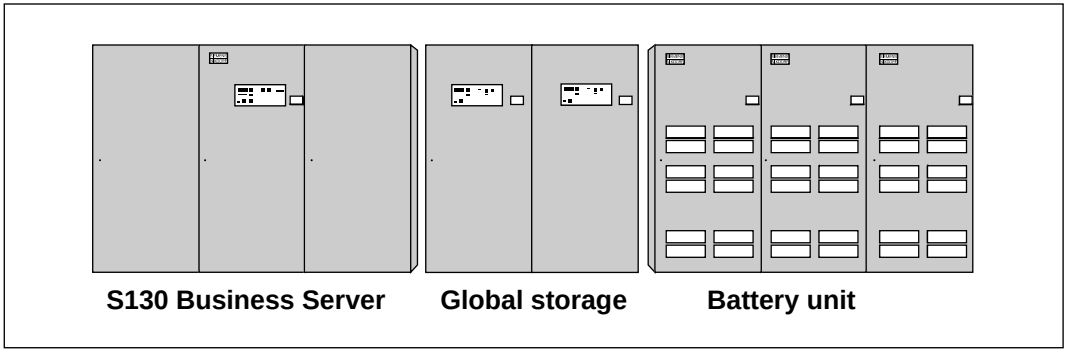


Figure 2: S130 Business Server, global storage and battery unit

The S130 Business Server comprises two cabinets together with an additional cabinet for channel extensions.

Two global storage units can be connected, each of which is located in a separate cabinet.

The battery unit for global storage consists of three cabinets.

3.1 Configuration levels of the S130 Business Server

The S130 Business Server series consists of five models. Upgrading of the individual models can easily be carried out on site, so that system downtime is not extended due to hardware installation.

All the S130 models have multiple processing units, I/O processors and channel groups. Thus a reconfiguration is possible for these models if there is a partial failure.
If a processing unit fails, the other processors take over its tasks during operation (dynamic reconfiguration).

If the HVZ (high-availability feature) option S130K-1H is available, a defective processor can be replaced with the high-availability processor (the high-availability feature is only available for the models S130-C, S130-E and S130-P).

Model	Number of processors	Performance factor
S130-C	2 processing units	1.0
S130-E	3 processing units	1.4
S130-K	4 processing units	1.9
S130-P	6 processing units	2.6
S130-T	8 processing units	3.1

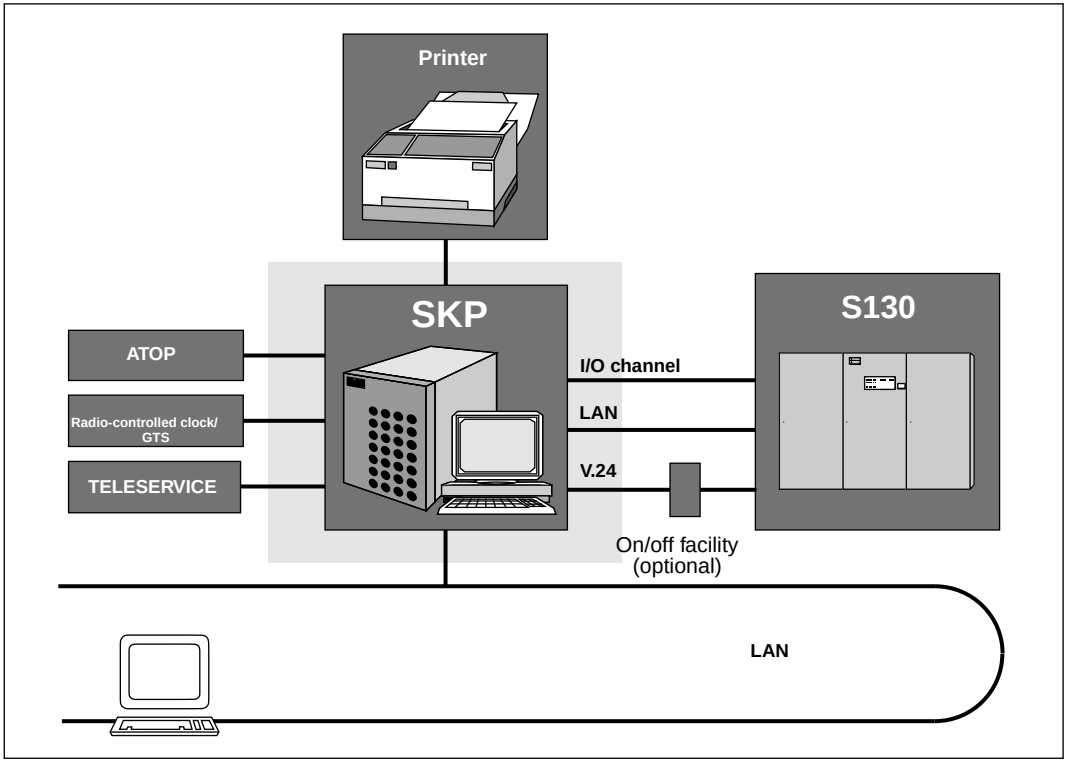


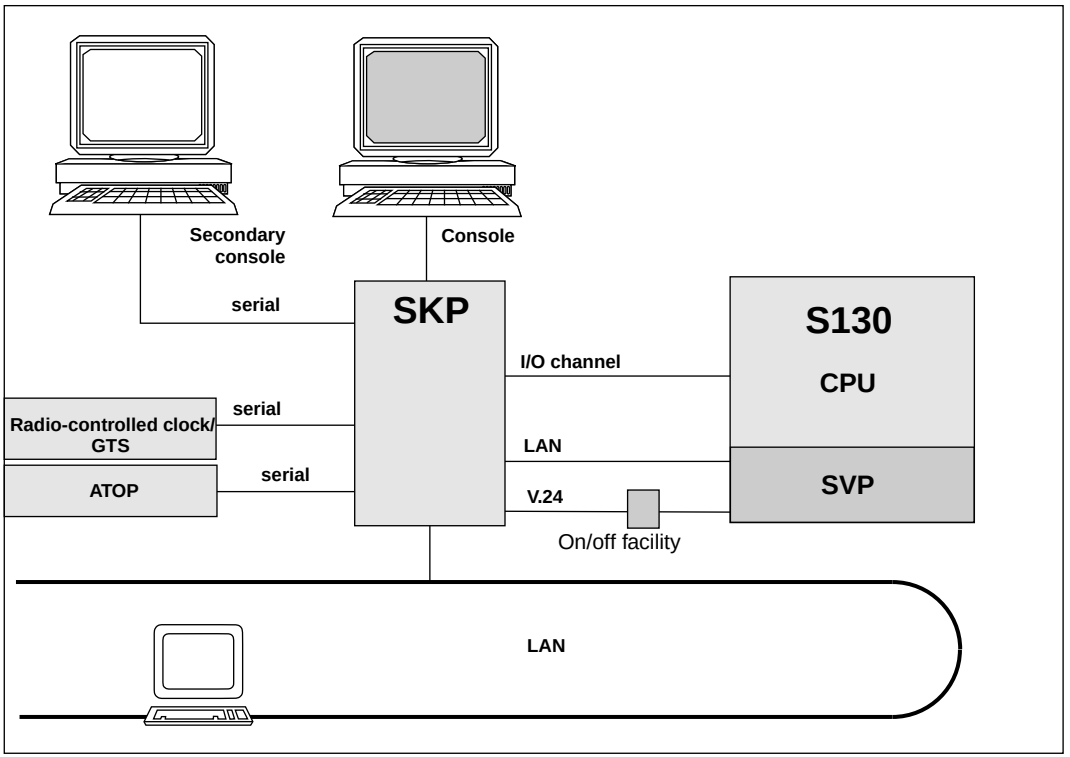
Figure 3: Hardware overview of the S130 Business Server system with 3970-SKP

3.2 Concept of system operation

V7 System operation is described in the chapter “Basics of system operation“ of the “SINIX-2000 V7.0“ [1] manual.

The following section lists the most important hardware and software components for S130 operation.

3.2.1 Hardware



The following hardware and software components are important for the operation of S130:

- Service processor (SVP) in the S130 CPU.

 This is responsible for the following tasks in the S130 CPU:
 – initialization
 – monitoring
 – controlling
 – hardware diagnosis

- The service/console processor (3970-SKP) with the SINIX operating system.

 Operation of the S130 system takes place via a local PC: the 3970-SKP service/console processor.

 S130 and 3970-SKP communicate with one another in three ways:

 – serial line (V.24)
 – type-2 I/O channel (KT2) or type-S I/O channel
 – LAN connection

 The following components can be operated via the local 3970-SKP screen and remote secondary consoles:

 – the 3970-SKP itself
 – the SVP of the S130
 – the BS2000 running on the S130

- Consoles can be set up and operated directly for up to 15 VM2000 guest systems.
- Automatic Operator (ATOP).

 The ATOP is a device which is connected to the 3970-SKP via a serial line.

 It makes the following functions possible:

 – automatic switching on and off of the S130
 – automatic operation of the BS2000 system

 The customer can program the ATOP to specify which operating functions should be executed for which conditions.

 Examples:

 – automatic shutdown of the system in the case of fan failure.
 – automatic command entry in reaction to certain BS2000 console messages.

- It is possible to connect a radio-controlled clock or Global Time Server (GTS).
- On/off facility (optional) makes it possible to switch the S130 on and off from the 3970-SKP.

3.2.2 Software

The following software components play an important role in S130 operation:

- Window interface

 The SINIX operating system is run on the 3970-SKP. One component of SINIX is the window interface based on the X Window system (see the ”SINIX-2000 V7.0” [1] manual).

 V7 A brief introduction to the window system can be found in the chapter entitled "Brief introduction to the window system" in the "SINIX-2000 V7.0" [1] manual. Further information can be found in the "SINIX/windows User Environment V3.0" [3] manual.

 The following system components use the window system:

 – BS2000 (e.g. CONS0 or EM9750 window, see page 34)
 – SVP (e.g. SVPST0 window, see page 34)
 – SINIX (e.g. SINIX or EVENT window, see page 34)

 The system provides preconfigured windows for operation which are opened automatically when the 3970-SKP is started up.

 V7 The number of windows for operating BS2000 and SINIX, the order of the windows on the screen, their size and some other properties can be changed using the relevant configuration functions.

 Information on this can be found in the chapter entitled "Configuring the system", in the sections "X screens" and "Virtual screens", in the "SINIX-2000 V7.0" manual.

- Console distribution program KVP (German acronym)

 The operation of the BS2000 from the 3970-SKP is controlled by the Console Distribution Program. KVP carries out the following tasks:

 – authorization controls
 – distribution of the BS2000 tasks to several consoles
 – short and long term logging of the console traffic

 KVP requires parameters that are stored in the KVP parameter file of the built-in disk of the 3970-SKP. The KVP parameters are created in SINIX when the system is generated and can be changed with the help of the SINIX configuration.

V7 Information on configuring the KVP can be found in the chapter entitled “Configuring the system”, in the section “KVP”, in the “SINIX-2000 V7.0” manual.

3.2.3 Authorization control

The access to operation of the BS2000, SVP and SINIX system components is protected:

- Access to the BS2000 console

 If you try to make an entry in a BS2000 control window after the system has been started up for the first time, you will be requested to enter a password.

 The password is specified when the system is installed and is identical to the password for the corresponding SINIX user ID (e.g. cons0 for the CONS0 console window). For further information, see chapter “Operating the BS2000 console” on page 89.

- Access to the BS2000 system administration

 If you want to work as a system administrator in BS2000, you must use a type EM9750 window, fill in the welcome screen, and log in by entering a BS2000 user ID (i.a. tsos) and - if agreed - a BS2000 password for BS2000.

- Access to the SINIX system administration

 If you want to carry out system administration tasks under SINIX you must log into a SINIX window by entering a SINIX user ID (i.a. admin, root or sysadm) and password.

- Access to the EVENT window

 Certain functions can be executed using the EVENT window.

 If you try to make an entry in this window after the system has been started up for the first time, you will be requested to enter the password for the SINIX user ID.

- Access to the SVP operation

 After you have filled out and sent off the welcome screen in the window for SVP operation, the system requests you to enter the password. The password is specified at the installation of the system and is identical to the password for the corresponding SINIX user ID (e.g. the ID svpst0 for the SVPST0 window).

4 Controls and indicators

The following controls and indicators are provided for the S130 Business Server:

– control panel on the Business Server cabinet, page 12
– control panel on the global storage cabinet, page 12
– EMERGENCY STOP switch, page 19

The S130 is operated using the operator terminals on the service/console processor.

4.1 Control panel on the Business Server cabinet

The control panel is connected with the service processor (SVP) in the S130 Business Server.

The physical structure of the control panel is illustrated in the following diagram:

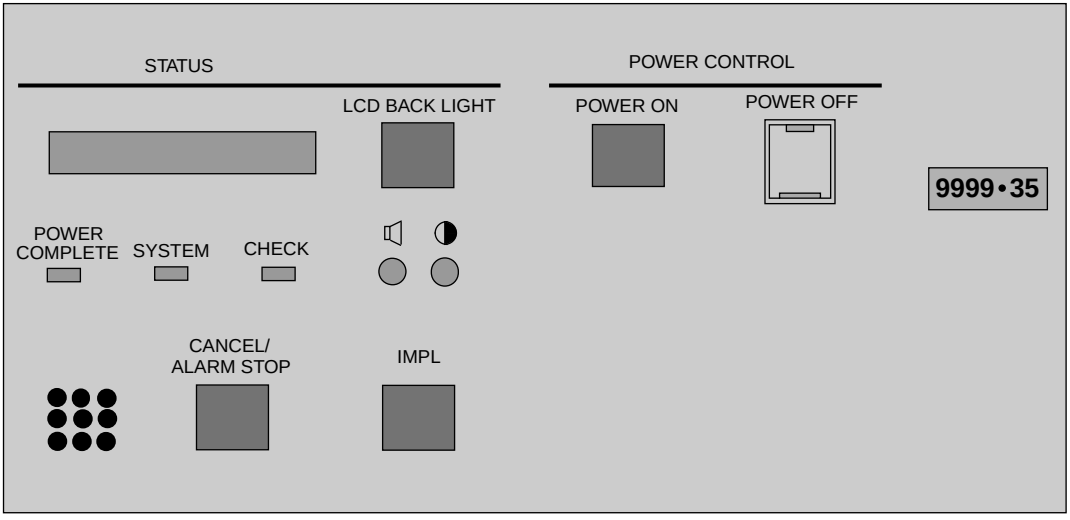


Figure 4: Control panel on the cabinet of the S130 Business Server

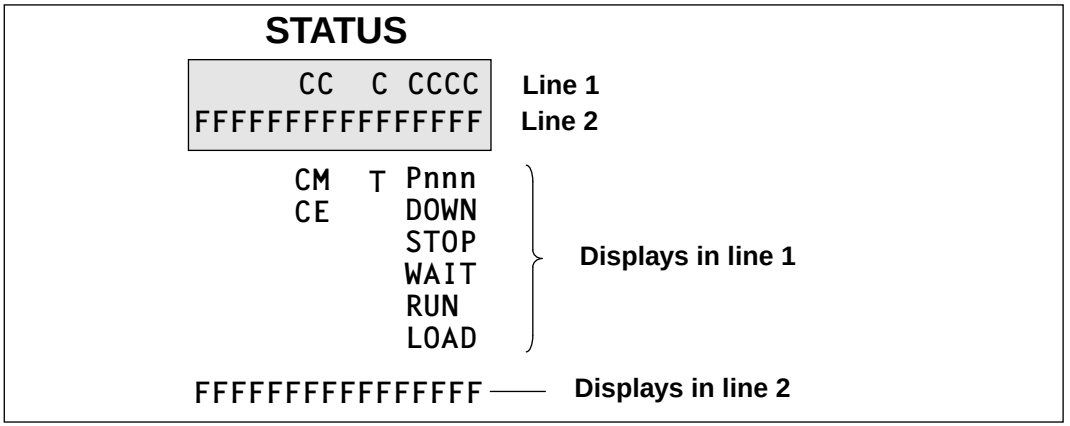
The function of the indicators and control elements on the control panel is described below.

4.1.1 Function of the indicators

STATUS

The STATUS indicator is an LCD display and can show alphanumeric characters. The codes change when the Business Server and the IMPL are switched on. No P codes should be displayed if POWER ON or IMPL has been run without errors (see next page). If this is not the case, this indicates a malfunction and you should contact the service department.

Information is displayed on the LCD display in the following format:



Meanings:

Line	Display field	Display	Meaning
Line 1	Maintenance mode	none	User mode
		CE	Maintenance mode
		CM	Hot system maintenance mode
	Test mode	none	Normal mode
		T	Test mode
	Cluster status	Pnnn	S130 switched off: P000 P codes during the switching on and initialization phase as well as when switching off: P001 to P379
		DOWN	Display for the output of a WRITE-CONSOL message (e.g. SHUTDOWN COMPLETED)
		RUN	CPUs in RUN status
		WAIT	CPUs in WAIT status
		STOP	CPUs in STOP status
		LOAD	IPL is being executed
Line 2	FLAG code	none	Normal state
		FFFFFFFFFFFFFFFF	Message or error code: this display is for the purposes of the service department.

POWER COMPLETE

This green light illuminates after the system power controller has terminated the switching on sequence without errors. The light is extinguished when the POWER OFF key is pressed.

SYSTEM

This green light illuminates when the processing units are active.

CHECK

This yellow light illuminates when the service processor has decoded a machine error or an error in the power supply modules of the Business Server. A buzzer sounds at the same time. The light also illuminates when a WRITE-CONSOL message is output (e.g. SHUTDOWN COMPLETED) at the operating terminal. Illumination of the CHECK light in this case, the simultaneous display of DOWN on the LCD display, and the sounding of the buzzer can be configured by the service department.

Potentiometer for volume 🔊

This is used to set the volume of the buzzer.

Potentiometer for brightness ◑

This is used to set the brightness of the LCD display.

Operation hours counter 9999*35

The operation hours counter is on the right-hand side of the control panel.

The counter has an LCD display.

The time is displayed in hours and is accurate to 0.01 hours.

The time counter is active if the following two conditions are fulfilled:

– the system is in user mode

– one of the processing units within the system configuration is in the RUN state.

4.1.2 Button functions

LCD BACK LIGHT

The LCD display STATUS (background) is illuminated for five minutes when you press this button. The lights go out immediately when you press this button again.

POWER ON

When this button is pressed, the power supply of the entire system is switched on sequentially. The order is predetermined. It begins with the Business Server system components and ends with the peripheral devices connected to the PCI (Power Control Interface). Then an IMPL is carried out. The system is ready for operation when the display of P codes on the LCD display is extinguished.
If POWER ON IPL is configured, the operating systems is subsequently loaded (see LOAD PRESET1-Frame on page 70).

POWER OFF

This is the button for switching off the power supply for the entire system. The sequence begins with the peripheral devices connected to the PCI and ends with the Business Server system components. The button is protected by a flap so that the system cannot be switched off unintentionally.

CANCEL / ALARM STOP

When this button is pressed, the buzzer in the control panel is stopped and the CHECK light is extinguished (same function as the F3 key in SVP console window). If another malfunction occurs after the light is extinguished, e.g. a machine error or a malfunction in the power supply, the buzzer and the CHECK light are reactivated.

IMPL

When this button is pressed twice, the IMPL is executed and confirmed. The S130 is initialized and the firmware is loaded in the individual components (CPU, IOP). Furthermore, the IORSF selected in the IORSF Control Frame is activated. After the IMPL is terminated, the P codes in the LCD display are extinguished. Afterwards an IPL (Initial Program Load) of the BS2000 can be executed on the SKP.
If POWER ON IPL is configured, the operating system is loaded automatically (see LOAD PRESET1-Frame on page 70).

This button loads another configuration or activates another IORSF.



The system will crash if an IMPL is executed during operation.

After you press the IMPL button for the first time the question ARE YOU SURE? is displayed on the LCD display.

- If **no** IMPL is to be executed, the CANCEL / ALARM STOP button must be pressed.
- If the IMPL is to be started, the IMPL button must be pressed a second time.

4.2 Control panel on the global storage cabinet

The control panel is connected to the service processor in global storage.

The physical structure of the control panel is illustrated in the following diagram:

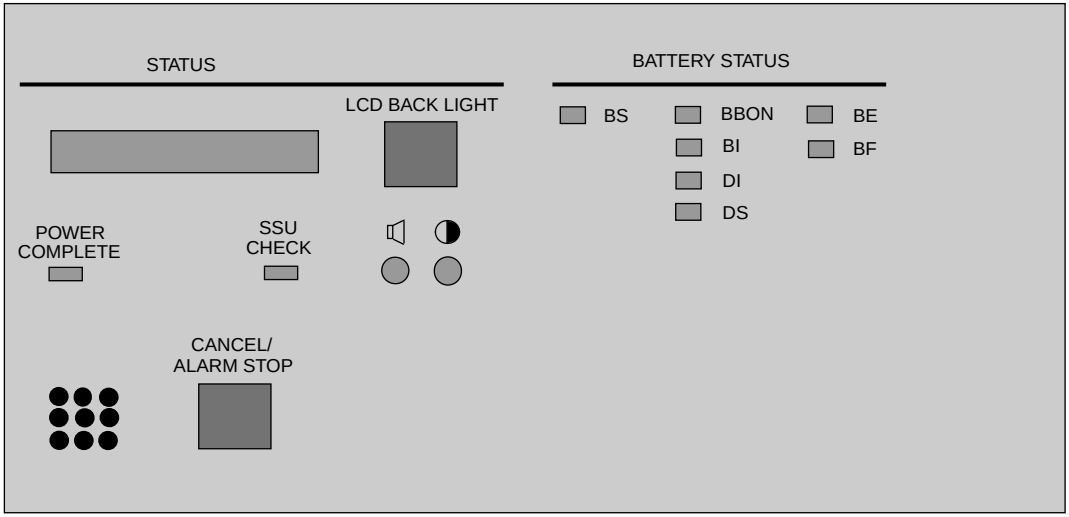


Figure 5: Control panel on the global storage cabinet

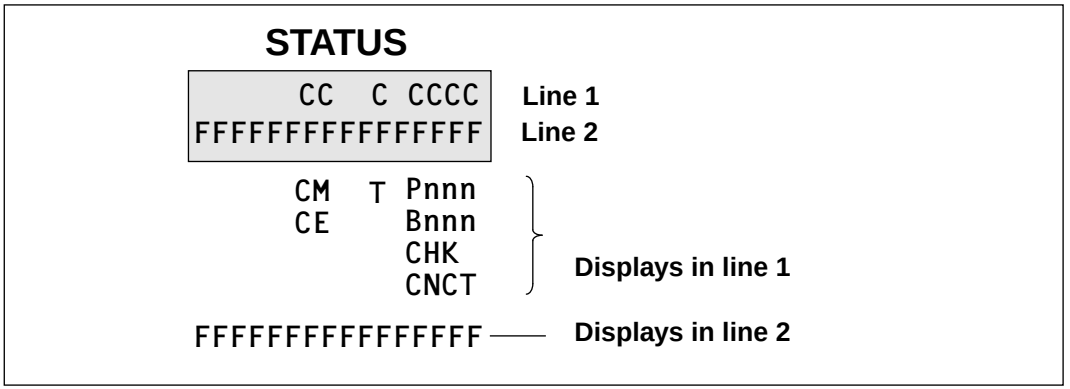
The functions of the indicators and control elements are described in the control panel.

4.2.1 Function of the indicators

STATUS

The STATUS indicator is an LCD display and can show alphanumeric characters. The codes change when global storage and the IMPL are switched on. No P codes should be displayed if POWER ON or IMPL has been executed without errors. If this is not the case, this indicates a malfunction and you should contact the service department.

The information is shown on the LCD display in the following format:



Meanings:

Line	Display field	Display	Meaning
Line 1	Maintenance mode	none	User mode
		CE	Maintenance mode
		CM	Hot system maintenance mode
	Test mode	none	Normal mode
		T	Test mode
	SSU status	Pnnn	SSU switched off, battery not active: P000 SSU switched off, battery active: P001 P codes during the switching on and initialization phase as well as when switching off: P002 to P379
		Bnnn	nnn shows the time in hours since the backup battery became active after the network failure.
		CHK	SSU in check stop state
		CNCT	SSU connected to a cluster
Line 2	FLAG Code	none	Normal state
		FFFFFFFFFFFFFFF	Message or error code: this display is for the purposes of the service department.

POWER COMPLETE

This green light is lit up after the system power controller has terminated the switching on sequence without any errors. The light is extinguished when the POWER OFF button is pressed.

SSU CHECK

The display illuminates if there is an error in global storage. The buzzer sounds at the same time.

BATTERY STATUS

These indicators indicate the state of the backup battery:

Name	Color	Meaning	Measure
BS	green	Backup battery is installed	
BBON	green	Backup battery is active	
BI	green	Backup battery is not available	
DI	green	Data in the global memory are invalid	
DS	green	Indicator is not in use	
BE	yellow	Error in backup battery operation	Call service dept.
BF	yellow	Error in the backup battery	Call service dept.

Potentiometer for volume

This is used to set the volume of the buzzer.

Potentiometer for brightness

This is used to set the brightness of the LCD display.

4.2.2 Button functions

LCD BACK LIGHT

The LCD display STATUS (background) is illuminated for five minutes when you press this button. The lights go out immediately when you press this button again.

CANCEL / ALARM STOP

When this button is pressed, the buzzer in the control panel is stopped and the SSU CHECK light is extinguished. If another malfunction occurs after the light is extinguished, e.g. a machine error or a malfunction in the power supply, the buzzer and the SSU CHECK light are reactivated.

4.3 EMERGENCY STOP switch

Not only the Business Server cabinet, but also the global storage and battery cabinets each have an EMERGENCY STOP switch.

If the EMERGENCY STOP switch on the S130 is pressed, global storage is also switched off. If you wish to cut power to the entire system, the EMERGENCY STOP switch on the battery cabinet must also be pressed.

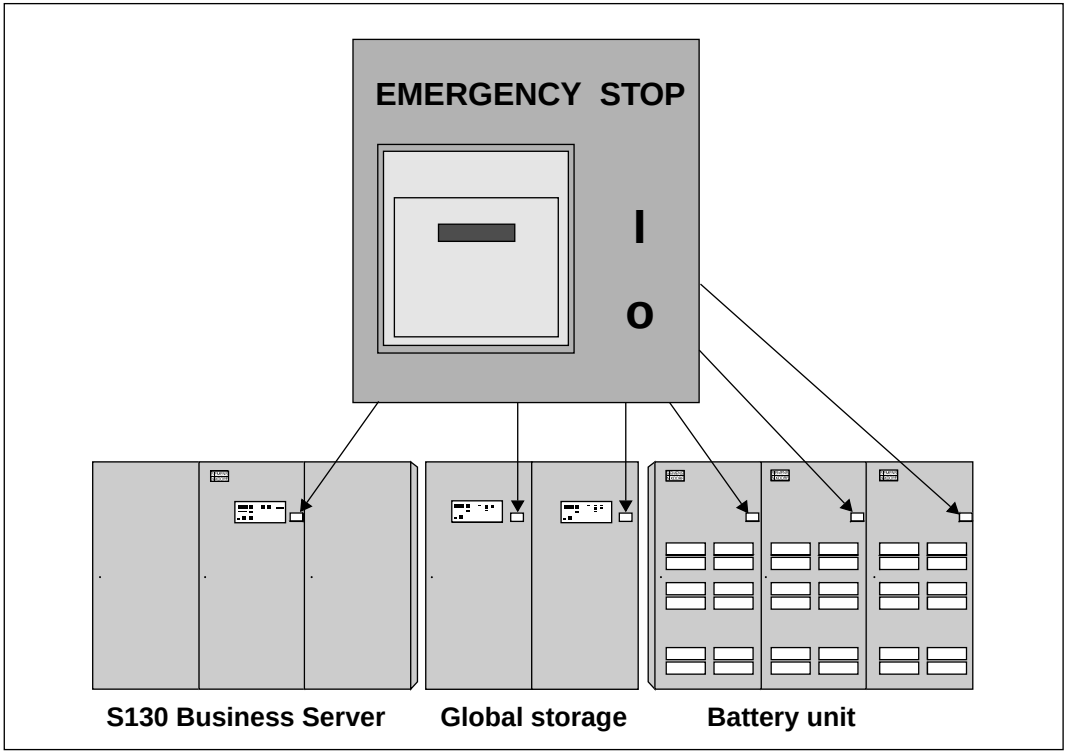


Figure 6: EMERGENCY STOP switch on the Business Server cabinet, global storage and battery unit

This switch should only be used in emergencies. It can only be reset by the service department.

The system can only be switched back on after the switch has been reset.

The system data is not saved when the switch is pressed.

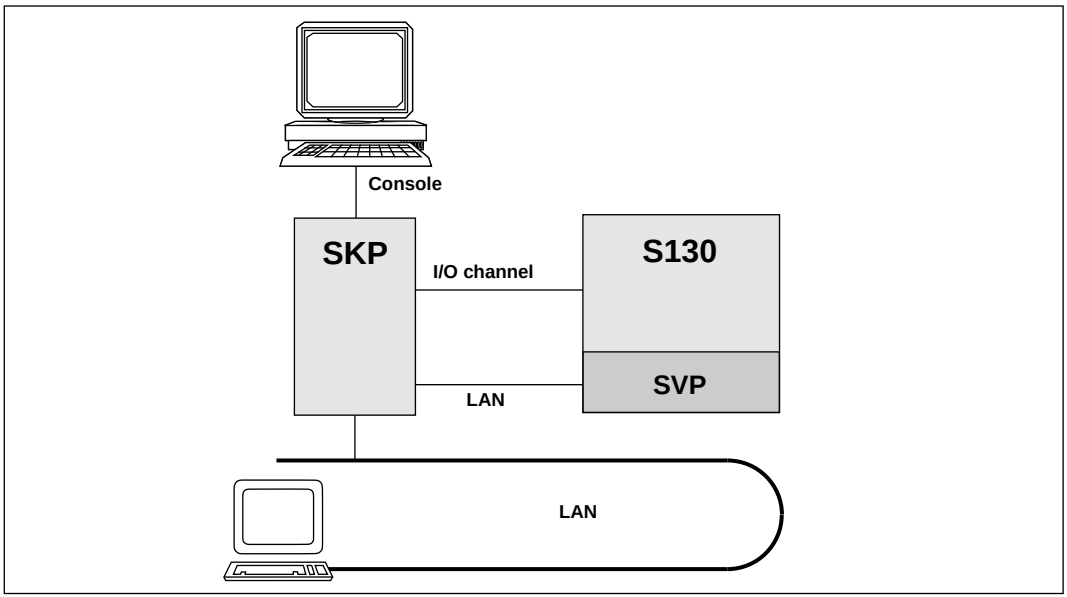
Use the EMERGENCY STOP switch as follows:

- ► Open the transparent switch cover and press the red switch downwards to the **O** position.

5 Switching the S130 Business Server on and off

This chapter describes the various technical options for switching the S130 Business Server on and off, depending on the hardware.

5.1 Switching the S130 on and off using the control panel



If the SKP is not linked to the S130 via the on/off facility (optional), the S130 must be switched on and off using the control panel.

Switching on

To switch on the entire system via the control panel, the SKP must first be switched on using the on/off button (see also the operating instructions for the SKP [2]). Afterwards the S130 can be switched on by pressing the POWER ON on the control panel of the S130.

When both systems are ready, i.e. all windows on the 3970-SKP have been opened and the LCD display on the S130 no longer shows any P codes, you can log in on the SVP (see page 34ff) and start the BS2000 system via PROGRAM LOAD FRAME: DETAIL-1 (see page 51).
If a POWER ON IPL is configured, the system is loaded automatically (see page 70 AUXILIARY FRAME: LOAD PRESET1).

Switching off

After BS2000 has been shut down, the S130 can be switched off by pressing the POWER OFF button on the S130 control panel (see page 15) or by selecting the menu item POWER OFF in AUXILIARY FRAME: P-OFF/IMPL (see page 69).

The SKP is switched off as follows:

There are three options for terminating the SINIX system of the SKP:

a) You call the basic menu of your window administration program by clicking on the gray window background using the right mouse button. This menu contains the item “Exit system”. Selecting this item allows you to initiate the termination of the system. As a result of this selection, “<computer name>: shut down” is output. Then carry out the following actions:

 - Activate the root password field using the left mouse button and enter the password for the user ID root.
 - Select the Init status by
 - positioning the cursor over the “Shut down” button,
 - pressing the <BSelect> mouse button (by default the left-hand mouse button),
 - holding the mouse button down, positioning the cursor on the desired entry of the opened menu (“Shut down” or “Restart”) and
 - releasing the mouse button.
 - Carry out the desired function by clicking the “Start” button.

b) You can also terminate the SINIX system by

 - logging in as the system administrator,
 - entering the shell command `shutdown` (for shutting down the system) or
 - the `shutdown -i6` command (for shutting down and restarting the system).

c) You can also terminate the SINIX system using the on/off button on the SKP. However, please make note of the following:



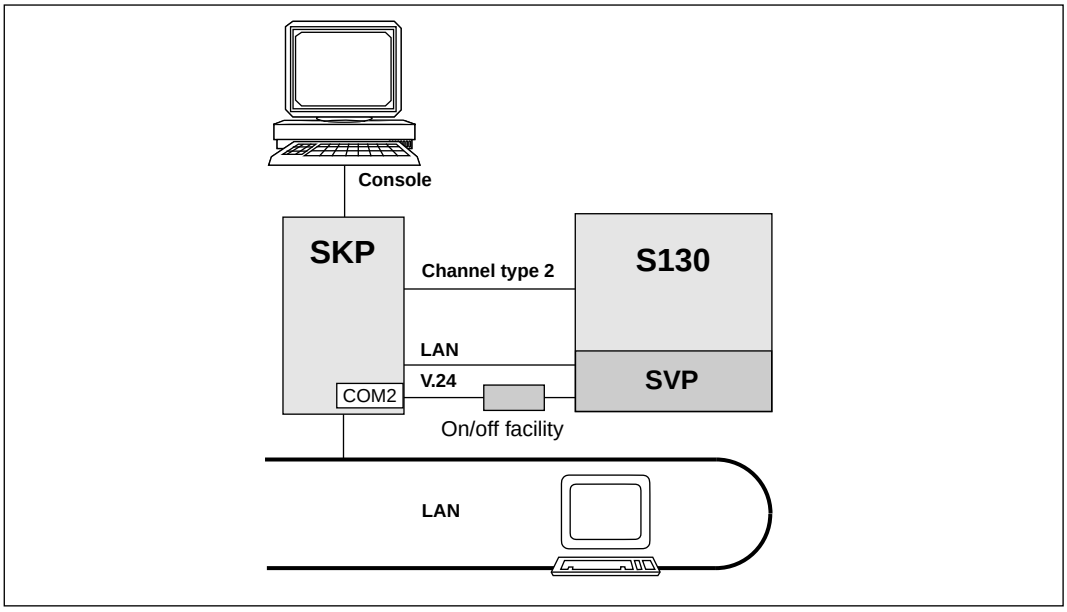
If the SKP is switched off using the button, it sends the command /shutdown or a self-defined /run xxxx command to any running BS2000 system before it switches itself off after a certain wait time has expired.

V7 You can define the shutdown command and the length of the wait period using the sysadm forms.

- ► Select the menu item “sinix_2000 - System Administration SINIX-2000“ on the UNIX System V, Administration menu.
- ► Select the menu item “up_down - Startup/shutdown settings“ on the SINIX-2000 system administration menu.

You will find a detailed description of how to configure time-controlled startup/shutdown in the section “up_down” of the “SINIX-2000 V7.0” manual.

5.2 Switching the S130 on and off from the SKP



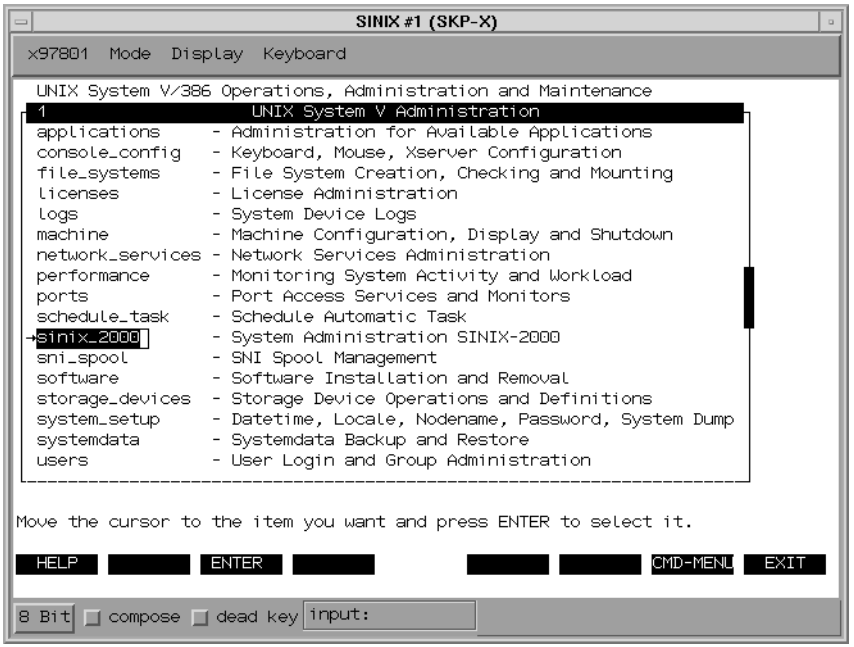
To switch the S130 on and off from the SKP, it must have the optional on/off facility.

The on/off facility is linked to the SKP via the COM2 V.24 interface.

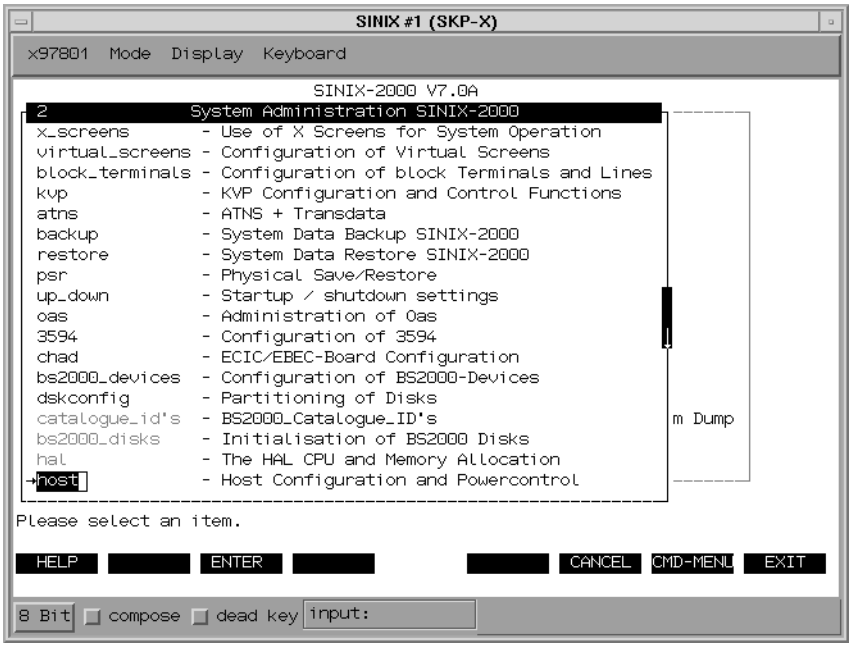
You access the “Switching on / off the host” form via the sysadm menu:

- ► Select or open a SINIX screen
- ► Login: `root` or `sysadm`
- ► Enter password
- ► For login with root: enter `sysadm`

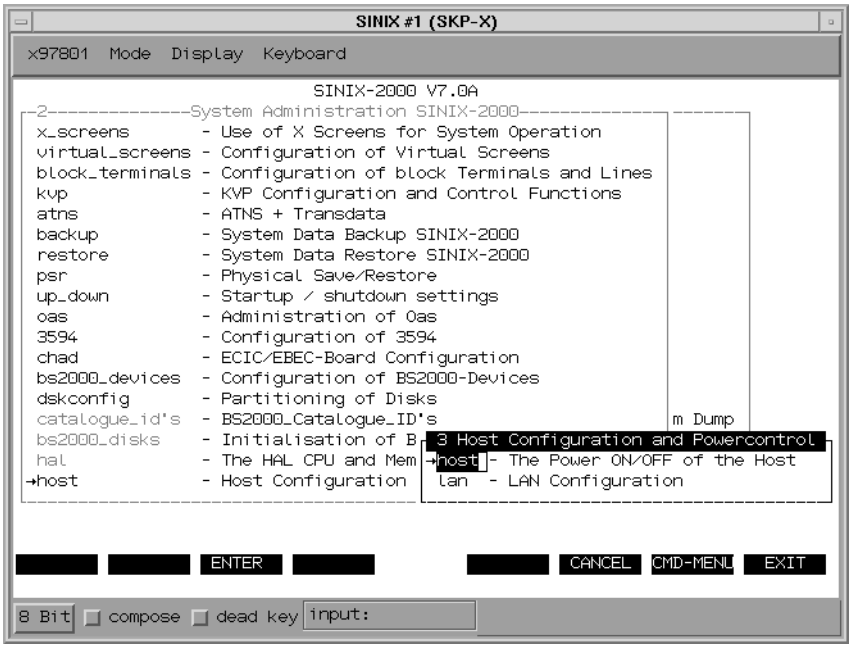
 The SINIX system administration window is displayed.
- ► Select the menu item “sinix_2000” on UNIX System V, Administration menu:



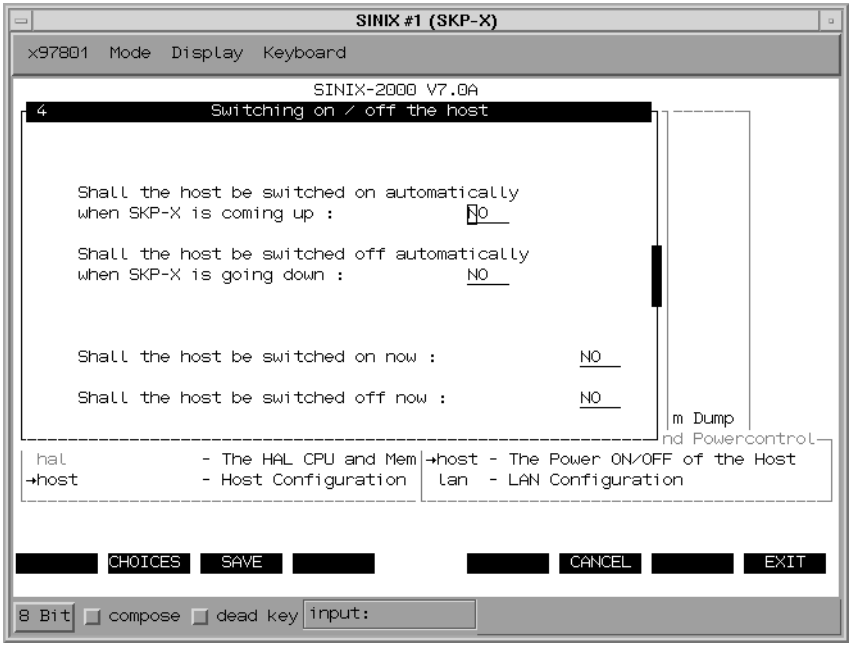
► Select the menu item “host”:



► Select the menu item “host - The Power ON/OFF of the Host”:



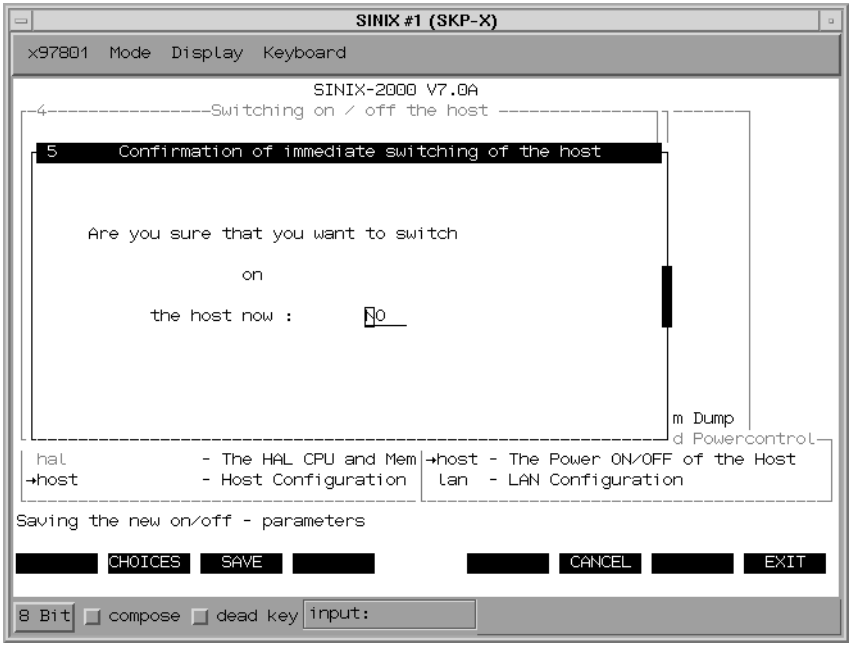
The “Switching on / off the host” form is displayed:



V7 Information on operation of the FMLI interfaces can be found in the “SINIX-2000 V7.0” manual [1].

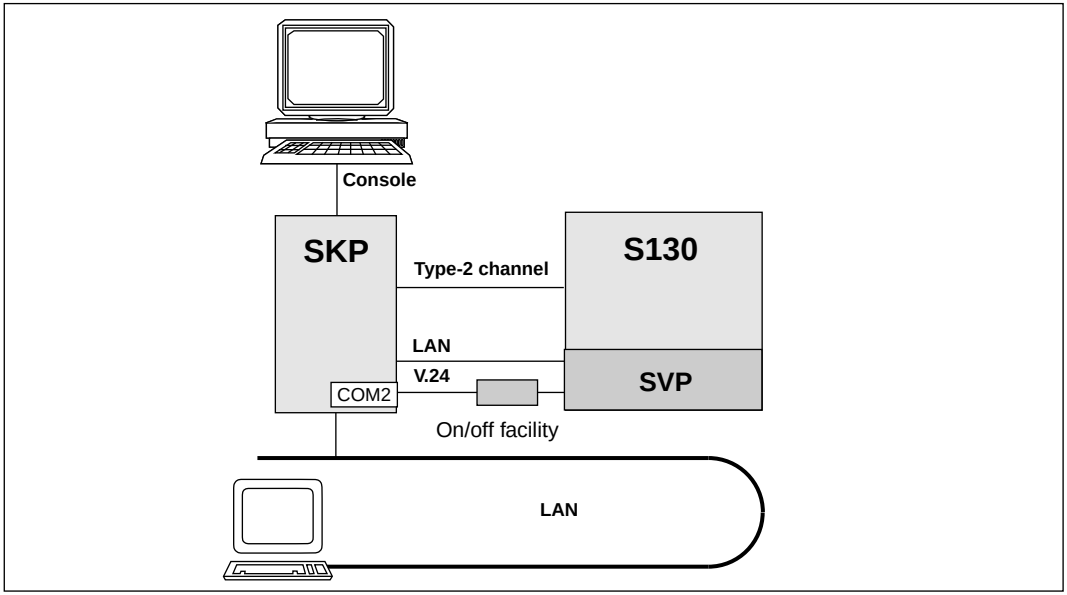
By entering YES for one of the two questions at the bottom of the form followed by the P2 (CHOICES) key, you can specify whether the S130 can be switched on or off immediately. Press the P3 (SAVE) key after filling out the form.

On no account should both questions be answered with YES. If a direct switching action is initiated by the reply YES, another message appears, which should again be confirmed with YES:



The switching operating is performed after you press the P3 (SAVE) key.

5.3 Automatic switching on/off of the S130 via the SKP



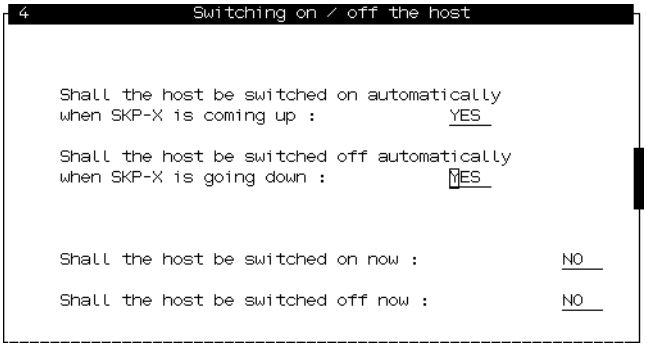
To switch the S130 on and off from the SKP, it must have the optional on/off facility.

The on/off facility is linked to the SKP via the V.24 interface COM2.

You access the “Switching on / off the host” form for switching on or off via the sysadm forms (see also the “SINIX-2000 V7.0“ [1] manual).

- ► Select the menu item “sinix_2000” on the UNIX System V, Administration menu.
- ► Select the menu item “host” on the System Administration SINIX-2000 menu.

The “Switching on / off the host” form is displayed:´



By entering YES for the two questions at the top of the window, you can specify whether the S130 should be switched on automatically if the 3970-SKP is switched on or SINIX is started on the 3970-SKP, and whether the S130 should be automatically switched off if the SINIX system is shut down or the 3970-SKP is switched off.

However, it is only switched off automatically if the SINIX system is shut down using `shutdown`. If it is shut down and restarted using `shutdown -i6`, no switching action is carried out.

5.4 Time-driven switching on and off of the SKP and S130

The SKP can switch itself and the S130 on and off at a certain time.

V7 Definition of the time at which the SKP and the S130 are to be switched on/off, a shutdown command, and the length of the wait time before the SKP and S130 are switched off can be specified using the sysadm forms.

- ► Select the menu item “sinix_2000 - System Administration SINIX-2000“ on the UNIX System V, Administration menu.
- ► Select the menu item “up_down - Startup/shutdown settings“ on the SINIX-2000 system administration menu.

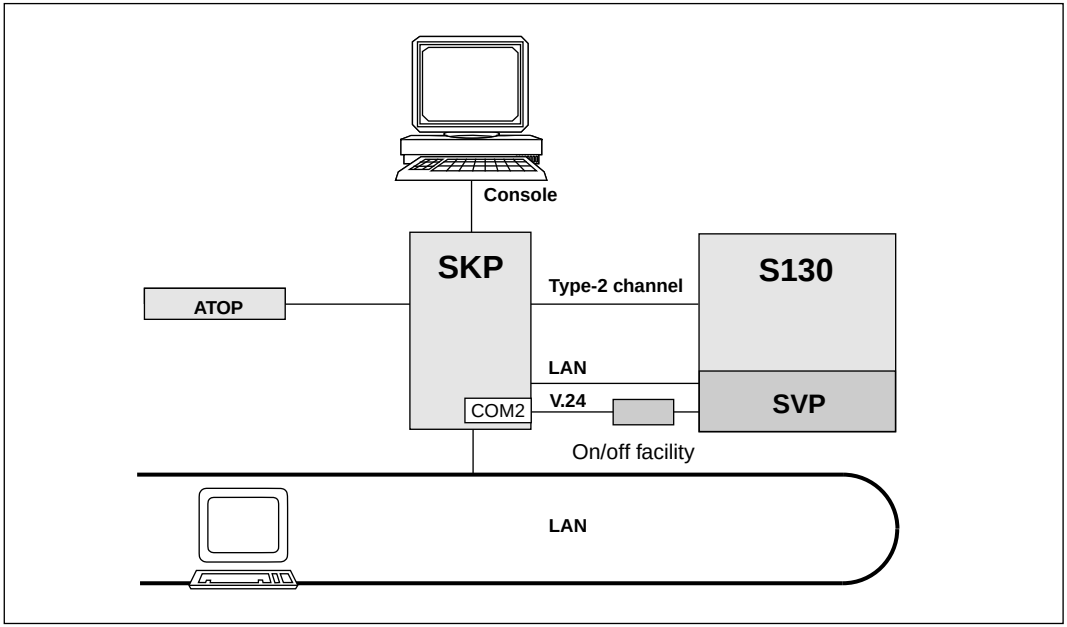
You will find a detailed description of how to configure time-controlled startup/shutdown in the section “up_down” of the “SINIX-2000 V7.0” manual.

In order to switch the S130 on or off from the SKP, you must have the optional on/off facility. Furthermore, the S130 must be configured to switch on and off automatically as part of the starting and shutting down procedure for the SKP.

The SKP switches the S130 on. After the IMPL, the BS2000 system is started by the POWER ON IPL function of the SVP.

When the SKP and S130 are switched off, the shutdown command is sent to the system. You must ensure that the system has completed all its task. BS2000 can terminate during the wait period before the S130 is switched off. Once this wait period has expired, the S130 is switched off, the SINIX system is shut down, and the SKP is switched off.

5.5 Switching the SKP and S130 on and off using ATOP 3914



The S130 can also be switched on automatically using the SKP in conjunction with the ATOP 3914. The optional on/off facility is required for this. Furthermore, the S130 must be configured to switch on and off automatically as part of the starting and shutting down procedure for the SKP.

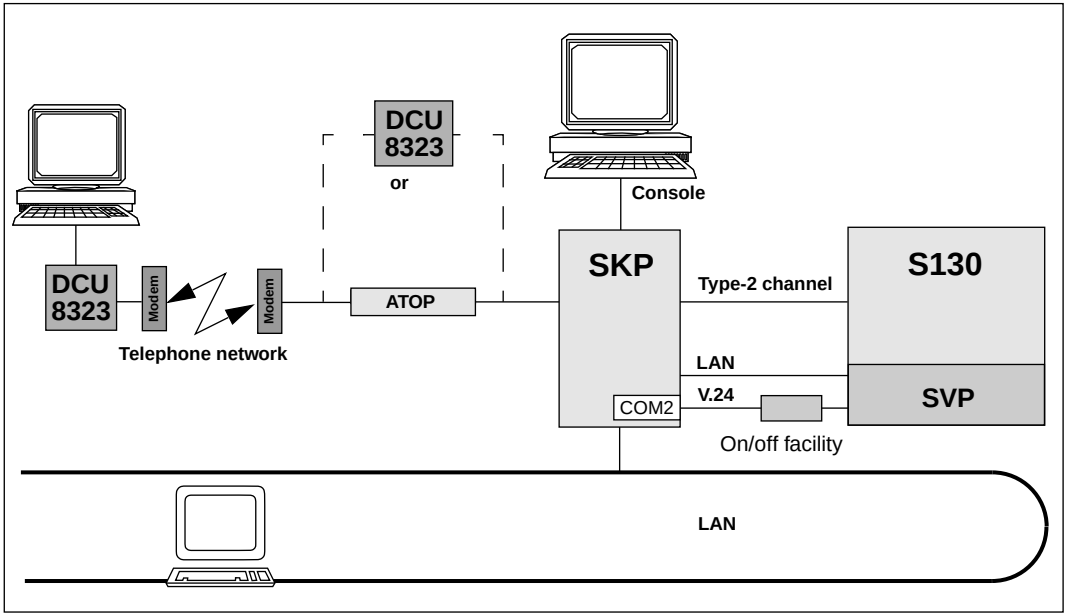
The ATOP switches the SKP on via its remote switching interface. The SKP switches the S130 on. After the IMPL, the BS2000 system is started using the POWER ON IPL function of the SVP or using the ATOP menu.

The BS2000 system can be operated both via the ATOP and manually by the operator.

To switch off the system, BS2000 must first of all be exited (ATOP/operator). The S130 is switched off by the SKP when the SKP is switched off by the ATOP.

You will find information on operating and programming the ATOP in the ATOP operating instructions enclosed.

5.6 Switching the S130 on and off from a remote system



Switching on and off can be carried out from a remote system using a modem/DCU. Information on operating the DCU can be found in the data sheet “8323 Data Communication Unit“ [5].

The optional on/off facility is required. In addition, automatic switching on/off of the S130 must be configured as part of the starting and shutting down procedure for the SKP. The SKP switches the S130 on. After the IMPL, the BS2000 system is started using the POWER ON IPL function of the SVP.

5.7 Switching global storage on and off

The service processor in global storage is linked via the SPC (System Power Controller) interface to the service processor in the S130.

Global storage is automatically switched on or off with the S130, regardless of whether this is performed manually, automatically or using the ATOP.

A battery backup can be installed in the global storage cabinet, which ensures data saving even in the event of a power failure.

6 Standard processing in SVP mode

Jobs are assigned to the service processor via special SVP menus, so-called SVP frames. All the information you require as an operator working with SVP frames can be found in this chapter. You will find instructions on the use of all user frames in the original “GS8600 MODEL GROUP OPERATORS GUIDE” (FJ-No. C112-E015-01EN).

After switching on the S130 and 3970-SKP, BS2000 operation must be prepared, i.e. the BS2000 operating system must be loaded (IPL = Initial Program Load). The following activities may be required for the IPL:

– select the IORSF (Input/Output Resource File) and start the IMPL (Initial Micro Program Load)
 This is only necessary if you want to load another IORSF.
– specify the operating mode (Native/VM2000)
 This is only necessary if you want to change the mode setting.
– start IPL using PROGRAM LOAD FRAME
 To do this you may have to redefine device parameters in the DETAIL-1 frame.
– configure an automatic IPL (POWER ON IPL)

The following sections provide examples of standard processing relevant to loading BS2000. There is also an description of how to select a particular configuration and how to re-initialize the SVP.

Standard processing at the SKP operator terminal at a glance:

– selecting IORSF
– re-initializing SVP
– setting up PROGRAM LOAD FRAME: PRESET-1
– setting up PROGRAM LOAD FRAME: PRESET-2
– selecting the SSU configuration
– setting the operating mode using PROGRAM LOAD FRAME: DETAIL-2 for loading BS2000 / VM2000
– executing IPL in PROGRAM LOAD FRAME: DETAIL-1

All standard processing is carried out at the SKP operating terminal via the X window system, SVPST0 #1 (computer name) window.

► Select the SVP window by clicking with the left mouse mouse button
 (see chapter “Operating the X window system” in the “SINIX-2000 V7.0” [1] manual).

6.1 Invoking an SVP frame

By default, an SVP window is configured with the label “SVPST0 #1 (computer name)” to operate the SVP.

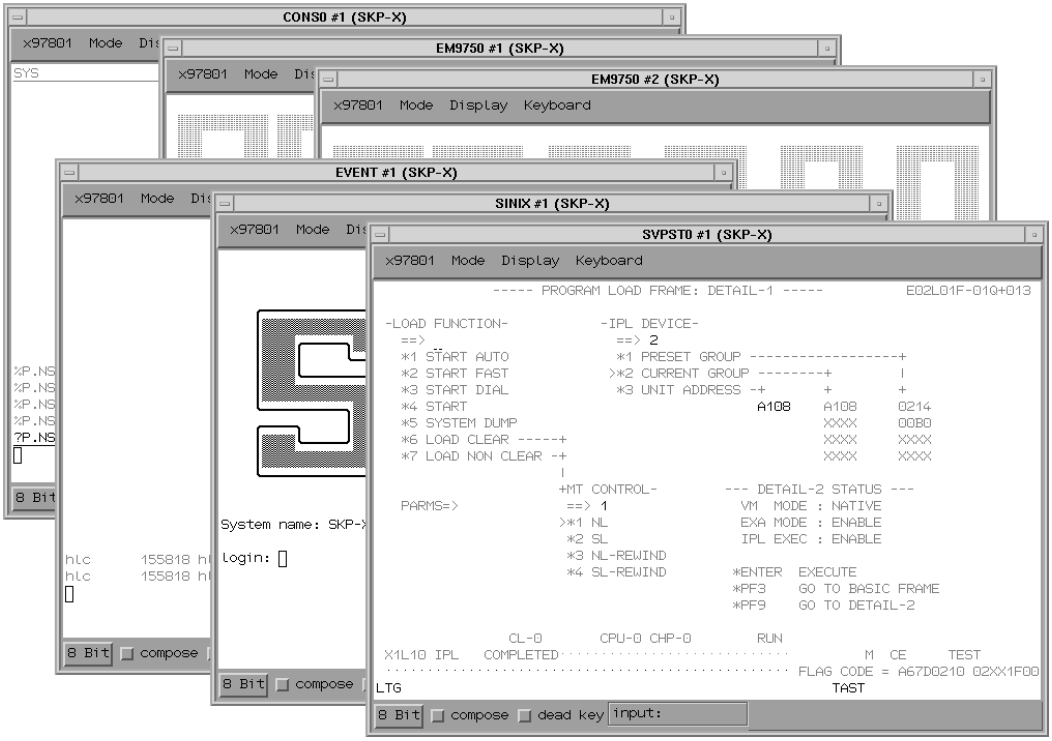


Figure 7: Overview of the X window system windows (example)

You can enter into SVP operator mode at the operating terminal by clicking on the SVPST0 #1 (computer name) window with the left mouse button.

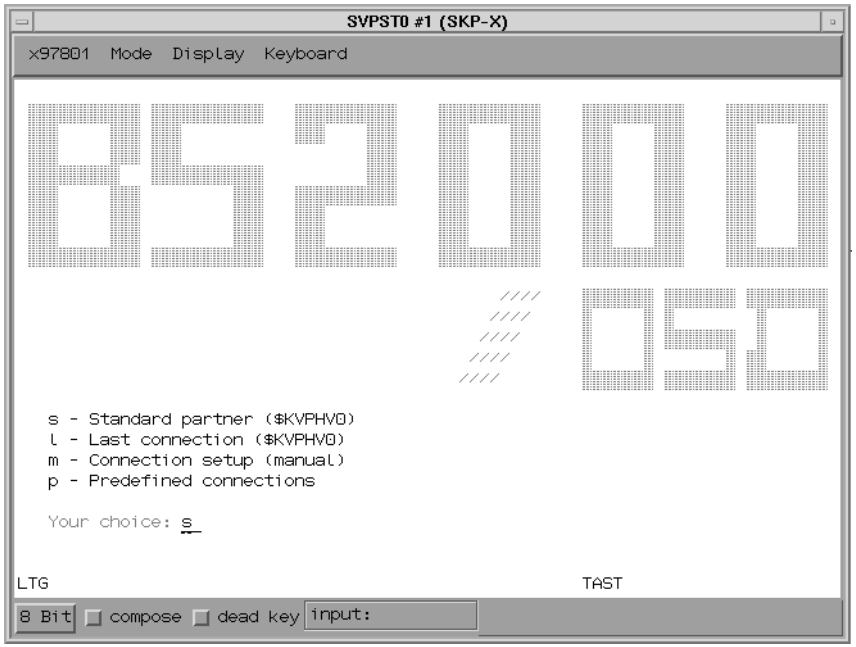


Figure 8: SVPST0 #1 window

► Select the “Standard partner ($KVPHV0)” function by pressing the S key or “Last connection ($KVPHV0)” by pressing the C key.
Confirm with the ENTER key.

The password entry window is displayed:

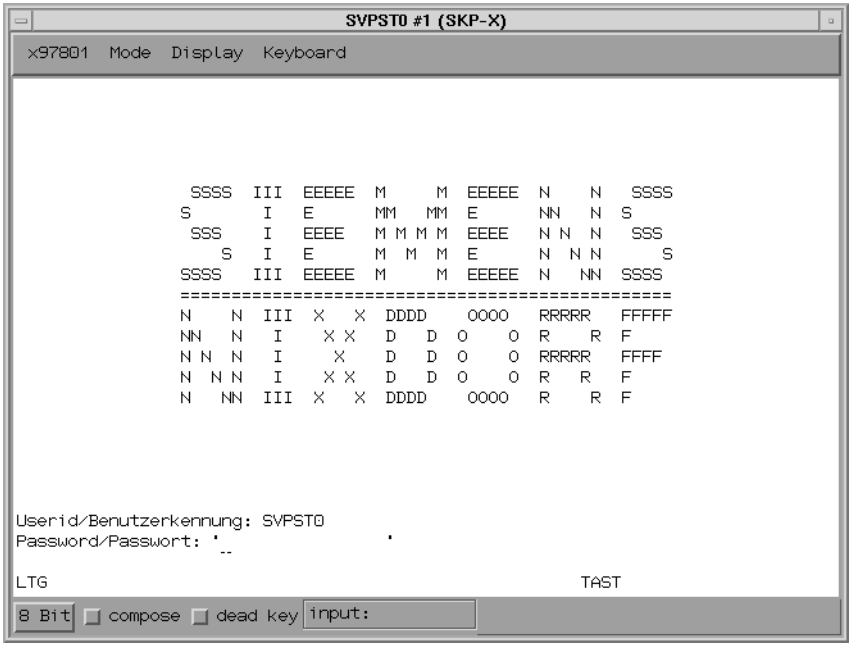


Figure 9: SVPST0 #1 window (password entry)

► Enter the password for the specified user ID and press ENTER.

If the correct password has been entered, the following window appears after a short pause:

– after starting the S130: the MODE SELECTION FRAME (see page 47)

– after closing and reopening the “SVPST0 #1” window or
opening another SVP window on the secondary console: the last frame shown in the “SVPST0 #1” window.



If the “SVPST0 #1” window or another SVP window on the secondary console is opened, the contents of the window are not output completely. Press the K2 key. This causes the screen to be refreshed, i.e. the frame that was last output is displayed again in its entirety.

6.2 General frame structure

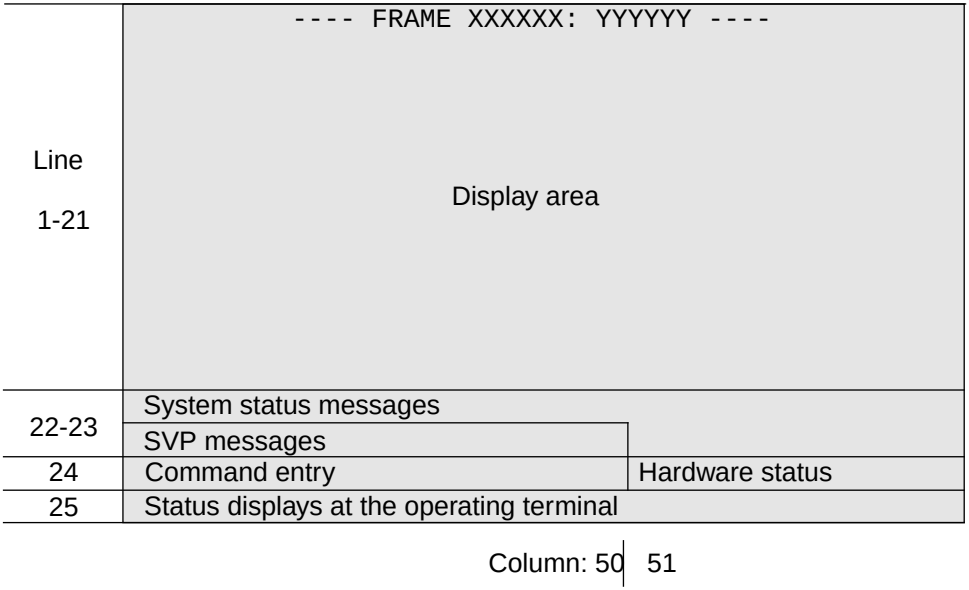


Figure 10: General structure of an SVP frame

Each SVP frame is divided into different areas:

Lines 1 - 21 This is the display area of a frame. Here the functions and parameters that may be selected or output are displayed. Hardware-related information is also output.

Line 22 + 23 System status messages and SVP messages are displayed here.

Line 24 Commands can be entered here. Information on the hardware status is shown as of column 51.

Line 25 This line is used for the status displays of the emulated operating terminal.

6.2.1 System status messages in line 22

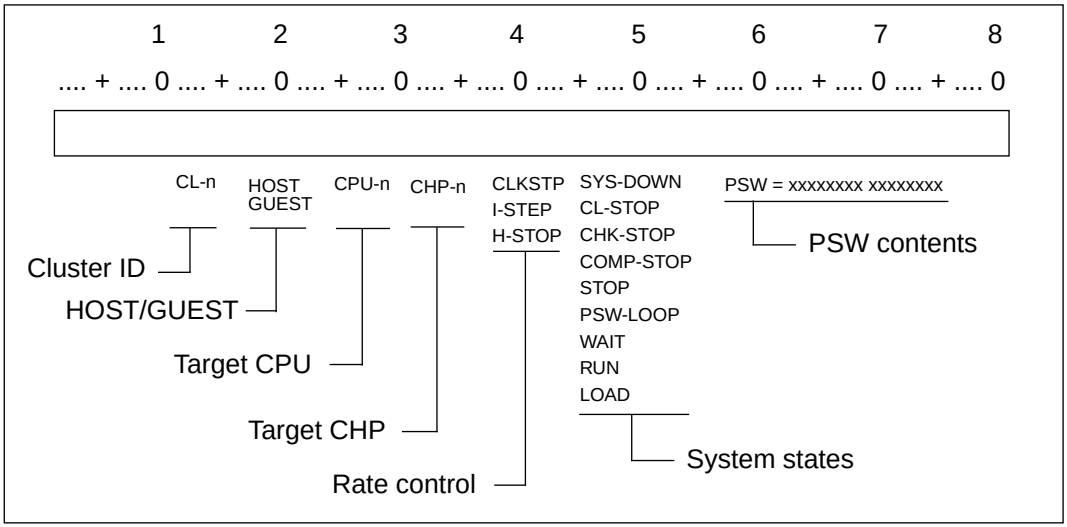


Figure 11: Format of the status display in line 22

Meaning of the status information in line 22:

Column	Symbol	Meaning
16 - 19	CL -n	Cluster ID of the S130; normally CL - 0
22 - 27	none HOST GUEST	The system is operated in BS2000-NATIVE mode. The selected CPU is occupied by the VM2000 monitor system. The selected CPU is occupied by a VM2000 guest system.
28 - 32	CPU - n	Display of the selected CPU (n = 0 - 7); selection with P16 key.
33 - 37	CHP - n	Display of the selected channel processor; display is usually CHP - 0.
40 -45	none CLKSTP I-STEP H-STOP	The system is in the normal state. The system is in the clock-stop state. The system is in the instruction step state. The system is in the hardware stop state.

Column	Symbol	Meaning
46 - 55	SYS-DOWN	The system may be in the system down state. This display can also appear when Write-Console messages are output (e.g. `SHUTDOWN COMPLETED`) and can be deleted with the F3 key.
	CL-STOP	In multiple-cluster operation, the selected cluster is in the stop state.
	CHK-STOP	The selected CPU is in the CHECK stop state.
	COMP-STOP	The address comparison stop mode is active and the selected CPU is in the address comparison stop state.
	STOP	The selected CPU is in the stop state.
	PSW-LOOP	An address loop was determined in the system.
	WAIT	The selected CPU is in the wait state.
	RUN	The selected CPU is in the run state.
	LOAD	An IPL is executed via the selected CPU.
58 -72	none	The system is in the run state.
	PSW =	The system is in the stop state on the PSW address (PSW=Program Status Word).

6.2.2 System status messages in line 23

The following picture shows the extended area of the system status messages in line 23:

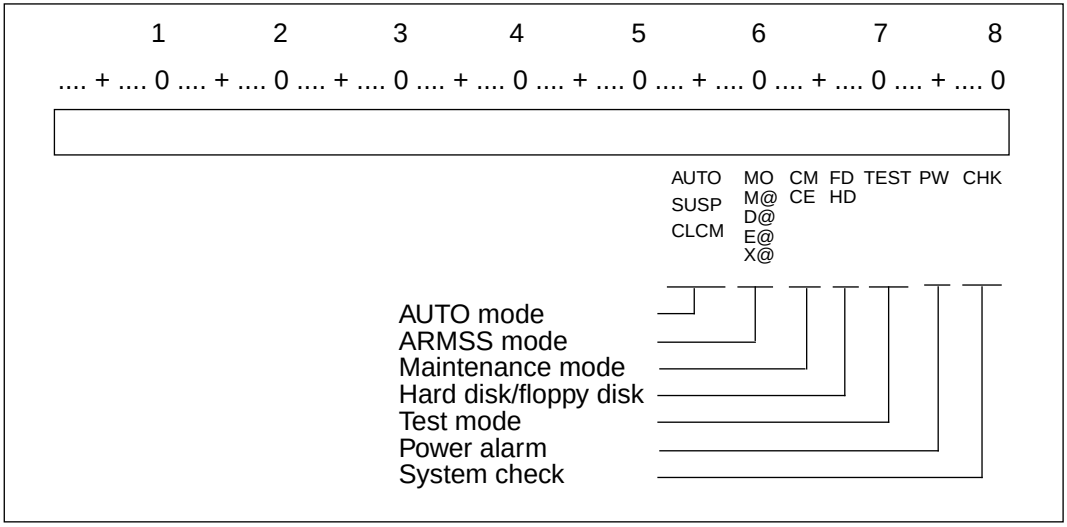


Figure 12: Format of the extended area of the status display in line 23

Meaning of the status messages in line 23:

Column	Symbol	Meaning
55 - 58	AUTO SUSP CLCM	This display does not occur with BS2000 or VM2000.
60 - 61	none M MO M@ D@ E@ X@	ARMSS-Teleservice not permitted. ARMSS-Teleservice is possible. An ARMSS connection to the SKP and ARMSS center is established or terminated. ARMSS is active. ARMSS is in the remote operation state. The control is at the center. ARMSS is in the remote operation state. The control is with the SKP and SVP. ARMSS is possible, line connection is prevented.
63 - 64	none CE CM	The system is in the user state. The system is in the maintenance state. The system is in the hot system maintenance state.
66 - 67	HD FD	Hard disk 2 is online. A floppy disk is active in the FD drive.
70 - 74	none TEST	The system is not in the test state. The system is in the test state.

Column	Symbol	Meaning
74 - 75	none PW	The power supply is okay. (Power Warning) An error has occurred in the power supply of the S130.
78 - 80	none CHK	No CHK (machine check). A CHK occurred in S130.

6.2.3 Hardware status display in line 24

The following diagram shows the format of the hardware status display in line 24:

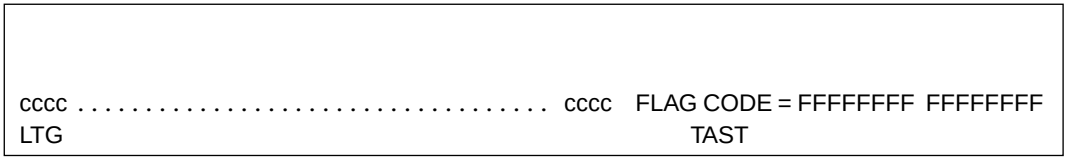


Figure 13: Format of the status display in lines 24 and 25

Meaning of the status information in line 24:

Column	Symbol	Meaning
1 - 50	cccccccc	Command input area
51 - 80	FFFFFFFF FFFFFFFF	FLAG code

The FLAG code represents a message or error code which can be evaluated by service department personnel. The display appears according to the severity of the FLAG code. As a rule, the last is shown.

6.2.4 Status displays in line 25

Displays of the emulated terminal 9750 and their meaning:

LTG Line activated

SAN Send request

DUE Data transfer

BEL Signal

TAST Keyboard connected

FEHL Invalid input

6.3 Using frames

You assign a job to the SVP by invoking the relevant frame, selecting the desired function, and specifying the required parameters. To select a function or specify a parameter, you must enter the alphanumeric characters shown in the frame in the input fields marked by an arrow (=>). The input fields can be selected with the tab key ⇥. Once you have entered all the functions and parameters assigned to a job, press the ENTER key. In several frames, functions can also be initiated with the SVP function keys.

Instead of selecting a function, you can also enter a command in the command input line in all frames (screen line 24) and assign a job to the SVP in this way. Frames can also be selected using the `FR␣Frame-ID`, e.g. `FR ML` (to switch to the MODE SELECTION FRAME). A command entered in line 24 takes priority over a selected frame function.

General notes on frame operation:

The input is disturbed by the output of messages in line 23 (e.g. `SET TIME COMMAND COMPLETED`). The K1 key suppresses output of the message for one minute. In this time the frame can be filled out and dispatched with ENTER.

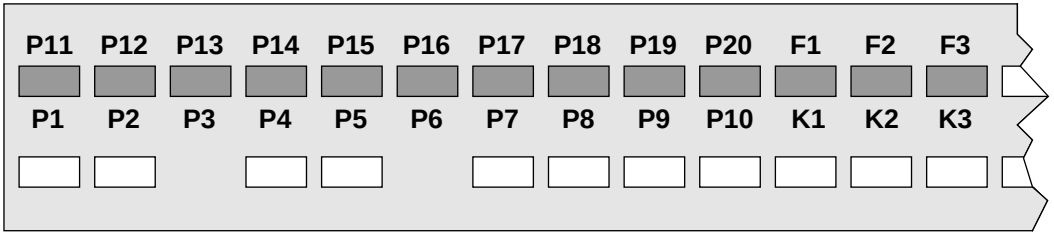
6.3.1 SVP function keys



An EMDS keyboard mask, which must be ordered separately, is used to operate the SVP frames:

Order number: U20076-J-Z148-1
EMDS (SINIX Open Desktop) as of V2.1 for DSS 97801-5xx:
Keyboard masks - 6 strips

The following diagram shows the position and labelling of the SVP function keys on the EMDS keyboard mask:



You can activate various functions on the SVP frames with the help of the P keys P1 to P20, the keys K1 to K3 and F1 to F3.

Overview of the SVP function keys

The following overview shows the keys and their functions as valid for most SVP frames. In some SVP frames keys can have another function. This is then shown in the corresponding SVP frame description.

Some of the keys shown here only have a function in CE mode (see information below) and are used exclusively by the service department.

CE=Customer Engineer; the CE mode on the S130 can only be switched on and off by the service department using a key switch on the inside of the maintenance panel.

The designations of the SVP function keys are different on the screen from those on the EMDS keyboard mask. Column 1 of the following table contains the designation of the SVP function keys on the screen (example: PF4), column 2 contains the corresponding keys on the EMDS keyboard mask.

PF . .	P . .	Name	Function
PF1	P1	Help	Help functions
PF 2	P2	Index	Only in CE mode : switches to the index frame
PF 3	P3	Return	Switches to the previous frame.
PF 4	P4		Frame-specific function is executed.
PF 5	P5		Frame-specific function is executed.
PF 6	P6	Cancel/Erase Input	Command or input is erased.
PF 7	P7	Page up	The previous screen contents are displayed.
PF 8	P8	Page down	The next screen contents are displayed.
PF 9	P9		Frame-specific function is executed.
PF 10	P10		Frame-specific function is executed.
PF 11	P11		Frame-specific function is executed.
PF 12	P12		Frame-specific function is executed.
PF 13	P13	Recall	Previous SVP commands are displayed in the command line; they can then be executed again with changed operands.
PF 14	P14		Frame-specific function is executed.
PF 15	P15		Frame-specific function is executed.
PF 16	P16	Change CPU	Selects the CPU for which the following commands are valid. This CPU is then logically connected to the SVP.
PF 17	P17		not assigned.

PF . .	P . .	Name	Function
PF 18	P18	Step	Executes the next command if the S130 is in Single Cycle Instruction Mode.
PF 19	P19	ARMSS control	Changes the user rights of an existing ARMSS connection.
PF 20	P20	Stop	only in CE mode : stops the selected CPU
PF 21	F1	Start	Starts the selected CPU
PF 22	F2		not assigned
PF 23	F3	Mode Select	– Switches to the MODE SELECTION FRAME. – Erases WRITE-CONSOL message on the screen (e.g. SHUTDOWN COMPLETED). – Erases BEL display in screen line 25 – Switches off buzzer on SKP and maintenance panel of the S130.
PF 24	K3	Mode Change	Switches back and forth between FJ-PROGRAM FRAME and SVP FRAME.

K . .	Name	Function
K1	Lock message output	The output (e.g. SET TIME COMMAND COMPLETED) for the SVP console is delayed for 60 seconds. Each time the key is pressed again, the lock is prolonged by another 60 seconds. There is no indication of the lock time.
K2	Refresh / Clear	The last displayed frame is re-displayed. All other previous inputs in the current frame are reset.

6.3.2 Switching between user frames

A switch between the user frames is only possible within a specified scheme or via an FR command.

The possible switches between the frames are illustrated below:

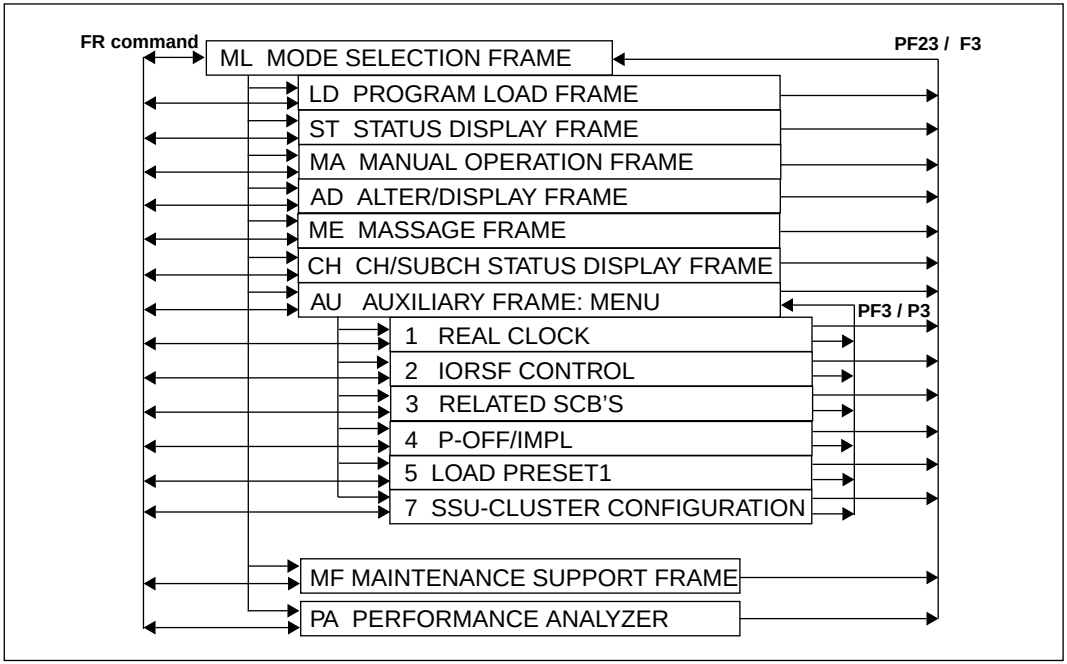
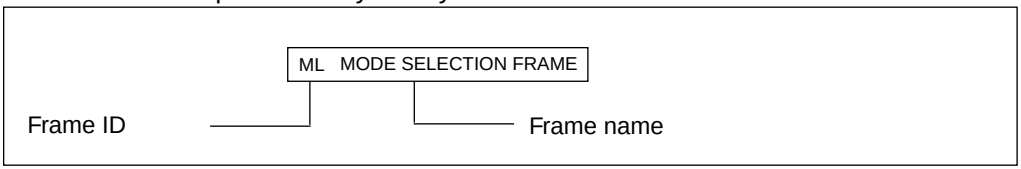


Figure 14: Switching between the frames

Explanation of figure 14

The frames are represented by this symbol:



Each frame has an ID consisting of two letters derived from the frame name. In the above example the MODE SELECTION FRAME is also shown with the ID ML.

Arrows and program function keys show where and with which key or combination of keys you can switch to a frame.

6.3.3 Options for switching between frames on the SKP operating terminal

The following table shows the options for switching to another frame on the SKP operating terminal.

Operation	Effect
P2	Only in CE mode : by pressing this key you switch from any frame directly to the index frame. The selection of the desired frame can then be made by entering the frame ID in the index frame.
P3	Pressing this key (return key) switches back to the previous frame.
F3	This key switches from any frame to the MODE SELECTION FRAME.
Frame selection	Enter a frame code in the MODE SELECTION FRAME (e.g. ST, AU, AU5)
Change to subframes	You can change to a subframe by selecting it from the main frame or from a subframe that has already been invoked. This can be done: – with program function keys. The keys are shown in the corresponding frame or subframe. – by selecting a function with or without entering a parameter.
FR command	It is possible to switch to any frame with the FR command. The command is entered in the command line (screen line 24) of a frame. It has the following format: **FR XX** (XX is the code of the desired frame; see figure 14 on page 45)

6.4 User frames and subframes

The user frames are used by the operator for sending jobs to the SVP and for receiving replies from the SVP.

Some frames have up to five subframes. The subframes contain other, more detailed functions and information which does not fit in the main frame.



This manual only describes the user frames required by the user.

6.4.1 (ML) MODE SELECTION FRAME

```
                  ----- MODE SELECTION FRAME -----            E02L01F
 FUNCTION=>

 - EXECUTION -             - SELECTION -              CPU SELECT=>
                                                      ( 0 1             )
 *1 CPU STOP               *LD PROGRAM LOAD
                           *ST STATUS DISPLAY
 *2 INTERRUPT              *MA MANUAL OPERATION       STOP/START MODE=>
                           *AD ALTER/DISPLAY
 *3 TOD ENABLE             *ME MESSAGE                 *1 ALL CPU
                           *CH CH/SUBCH STATUS         >2 TARGET CPU
 *4 SYSTEM RESET           *AU AUXILIARY
                           *MF MSF
 *5 SYSTEM RESET CLEAR     *PA PERFORMANCE ANALYZER

 *6 STORE STATUS

 *7 RESTART



               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                          FLAG CODE = F6C0C100 00000F00
LTG                                           TAST
```

Figure 15: MODE SELECTION FRAME screen

By making entries in this frame and pressing ENTER, you can switch to other frames or execute various basic functions.

FUNCTION => permits either the entry of a number listed in the EXECUTION column or a letter combination listed in the SELECTION column.

SELECTION After entering the appropriate letter combination you can switch to the following SVP FRAMEs:

LD	PROGRAM LOAD	Load BS2000 50
ST	STATUS DISPLAY	Display status 55
MA	MANUAL OPERATION	Manual operations 57
AD	ALTER/DISPLAY	Alter/display register 59
ME	MESSAGE	Display message 62
CH	CH/SUBCH STATUS	Display channel/subchannel 63
AU	AUXILIARY	Auxiliary controls 65
MF	MSF	Display flag codes 74
PA	PERORMANCE ANALYZER	Performance analysis 76

EXECUTION The following functions are executed after the appropriate number is entered in the input fields:



The functions are executed according to the entries in the CPU SELECT and STOP/START MODE fields (see table on next page)!

1	CPU STOP	stops either the CPU selected in the CPU SELECT and STOP/START MODE fields or all CPUs
2	INTERRUPT	creates an external interrupt for the CPU(s) selected in the fields CPU SELECT and STOP/START MODE
3	TOD ENABLE	time entry is enabled
4	SYSTEM RESET	all CPUs, IOPs, channels and controllers are reset
5	SYSTEM RESET CLEAR	as 4; in addition, the working memory is erased
6	STORE STATUS	selected CPU is stopped, the status is stored
7	RESTART	restarts selected CPU

CPU SELECT => A particular CPU, displayed in the next frame line, can be selected here for the functions in the EXECUTION selection menu (see above).

0 ... 7	Selection of a particular CPU

STOP/START MODE =>

This can be used to indicate whether the functions in the EXECUTION selection menu (see above) are to be carried out for all CPUs or only for the CPU in the CPU SELECT field.

1	ALL CPU	all CPUs are selected
2	TARGET CPU	only the CPU in the CPU SELECT field is selected

Note

The following table shows all the functions that can be meaningfully combined:

Function	CPU SELECT	STOP/START MODE	Effect on:
CPU STOP	–	1 All CPU	all CPUs
	0 ... 7	2 TARGET CPU	selected CPU
INTERRUPT STORE STATUS RESTART	0 ... 7	2 TARGET CPU	selected CPU
TOD ENABLE SYSTEM RESET SYSTEM RESET CLEAR	–	–	all CPUs

– : unusable

6.4.2 (LD) PROGRAM LOAD FRAME: BASIC

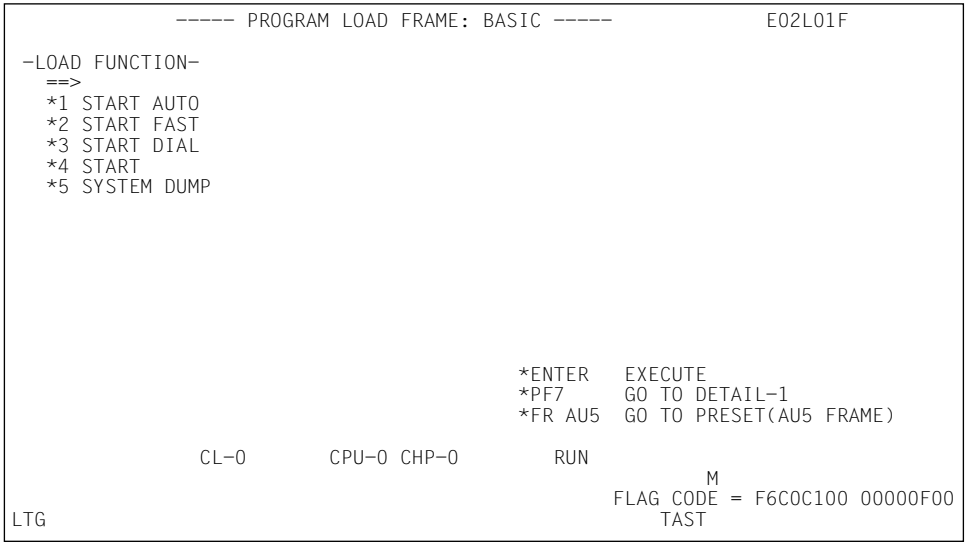


Figure 16: PROGRAM LOAD FRAME: BASIC screen

An IPL is executed by entering a load function and pressing the ENTER key. The predefined parameters in (AU5) AUXILIARY FRAME: LOAD PRESET are used.

LOAD FUNCTION =>

The following functions are executed after the corresponding number has been entered:

1	START AUTO	executes IPL: automatic startup
2	START FAST	executes IPL: fast startup
3	START DIAL	executes IPL: dialog startup
4	START	not used
5	SYSTEM DUMP	executes SLED

Special key functions

ENTER	Executes IPL / SYSTEM DUMP
P7	Switches to the PROGRAM LOAD FRAME: DETAIL-1 (page 51)
FR AU5	Enters the frame command in line 24: Switches to the AUXILIARY FRAME: LOAD PRESET1 (page 70)

6.4.2.1 (LD) PROGRAM LOAD FRAME: DETAIL-1

```
            ----- PROGRAM LOAD FRAME: DETAIL-1 -----          E02L01F

 -LOAD FUNCTION-           -IPL DEVICE-
   ==>                       ==> 2
   *1 START AUTO             *1 PRESET GROUP ------------------+
   *2 START FAST            >*2 CURRENT GROUP --------+        |
   *3 START DIAL             *3 UNIT ADDRESS -+       +        +
   *4 START                                   FDE0    FDE0     0214
   *5 SYSTEM DUMP                                     XXXX     00B0
   *6 LOAD CLEAR -----+                               XXXX     XXXX
   *7 LOAD NON CLEAR -+                               XXXX     XXXX
                      |
                     +MT CONTROL-        --- DETAIL-2 STATUS ---
   PARMS=> 1          ==> 1               VM  MODE : EMOS.AVM/EX
                     >*1 NL               EXA MODE : ENABLE
                      *2 SL               IPL EXEC : ENABLE
                      *3 NL-REWIND
                      *4 SL-REWIND       *ENTER  EXECUTE
                                         *PF3    GO TO BASIC FRAME
                                         *PF9    GO TO DETAIL-2

               CL-0       CPU-0 CHP-0       RUN
                                              M
                                          FLAG CODE = F6C0C100 00000F00
LTG                                                    TAST
```

Figure 17: PROGRAM LOAD FRAME: DETAIL-1 screen

By making entries in this screen and pressing the ENTER key you can control the execution of an IPL.

LOAD FUNCTION =>

The following functions are executed after the corresponding number has been entered:

1	START AUTO	executes IPL: automatic startup
2	START FAST	executes IPL: fast startup
3	START DIAL	executes IPL: dialog startup
4	START	not used
5	SYSTEM DUMP	executes SLED
6	LOAD CLEAR	clears main memory before IPL
7	LOAD NON CLEAR	does not clear main memory before IPL

IPL DEVICE => By making an entry in this field you can specify from which device an IPL is to be executed.

1	PRESET GROUP	The first device address in this column is the device from which an IPL is to be executed. The order and number has been specified previously in (AU5) AUXILIARY FRAME: LOAD PRESET-1.

If IPL is terminated normally, the device address list is transferred from the PRESET GROUP to the CURRENT GROUP.
If the IPL is unsuccessful, the next device address from the PRESET GROUP is reloaded. If this loading is terminated normally, this device address heads the CURRENT GROUP.

2 CURRENT GROUP — The first device address in this column is the device from which the last IPL was executed.
If the loading from this device is unsuccessful, the IPL is repeated with the next device address. If it is terminated normally, this address then heads the CURRENT GROUP.

3 UNIT ADDRESS — A new device address from which the operating system is to be loaded can be entered here. If the IPL is terminated normally, this device address is put in first position of the CURRENT GROUP.
If the IPL is unsuccessful, the loading is not repeated.

PARMS => A maximum of 8 characters can be entered in this field. Their position and meaning are listed below:

Position 1	␣	load BS2000
	1	load VM2000
Position 2 - 5	**mn**	mnemonic for Write/Read console, if C2C3 is not generated by default.
Position 6 - 7		not used
Position 8	␣	no function
	1	automatic restart function

MT CONTROL => IPL from tape:

1	NL	from current tape position
2	SL	skip label then load
3	NL-REWIND	rewind then load
4	SL-REWIND	rewind, skip label then load

DETAIL-2 STATUS

In this position the current settings of the PROGRAM LOAD FRAME: DETAIL-2 are displayed.

Check the settings. If they are correct, execute the IPL by pressing ENTER. If not, press the P9 key to correct the entries in PROGRAM LOAD FRAME: DETAIL-2.

Special key functions

ENTER Executes IPL

After selecting this function and pressing ENTER, the following prompt will appear

```
**********************************
*                                *
* ARE YOU SURE ? (ENTER Y OR N) N *
*                                *
**********************************
```



The IPL must not be executed during system operation! If this instruction is is not heeded, BS2000 will be shut down abruptly!

- ► Press Y and then ENTER to execute the IPL, or N and then ENTER to cancel the procedure.

P3 Switches to PROGRAM LOAD FRAME: BASIC (page 50)

P9 Switches to the PROGRAM LOAD FRAME: DETAIL-2 (page 54) and stores the parameters entered.

6.4.2.2 (LD) PROGRAM LOAD FRAME: DETAIL-2

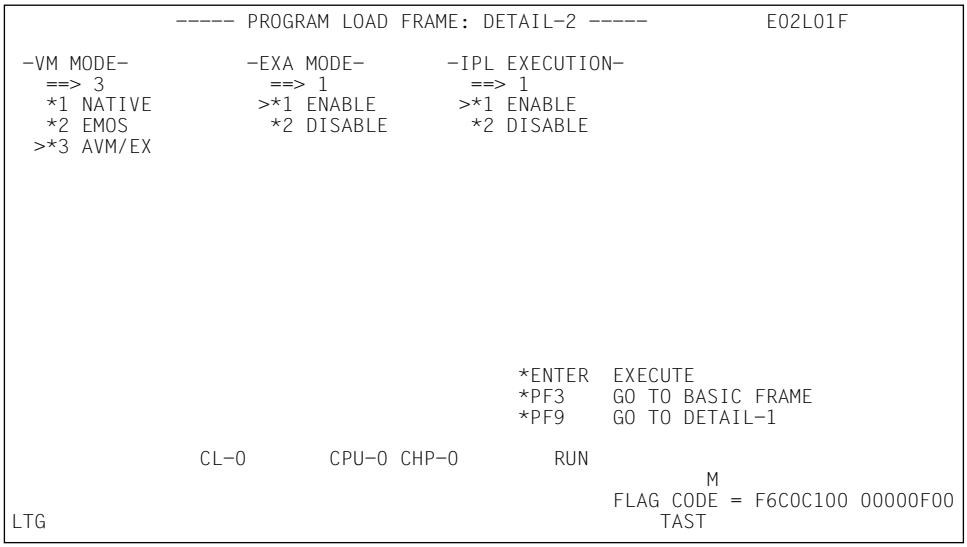


Figure 18: PROGRAM LOAD FRAME: DETAIL-2 screen

By making an entry in this frame and pressing ENTER, you can set the operating mode.

VM MODE => Selection of the firmware to be loaded from SVP

1	NATIVE	for BS2000 operation
2	EMOS	not used
3	AVM/EX	for VM2000 operation

EXA MODE => Selection of addressing mode

1	ENABLE	extended XA mode
2	DISABLE	not used

IPL EXECUTION => IPL execution

1	ENABLE	executes IPL
2	DISABLE	does not execute IPL

If there are changes to the VM MODE and `IPL EXECUTION => 2`, only the other firmware is loaded and no IPL is executed.

Special key functions

ENTER Sets operating mode. If a loading function has previously been stored in PROGRAM LOAD FRAME: DETAIL-1 with the P9 key, an IPL with the set parameters is executed.

P3 Switches to PROGRAM LOAD FRAME: BASIC (page 50)

P9 Switches to PROGRAM LOAD FRAME: DETAIL-1 (page 51)

With the exception of the load function, the parameters entered in the subframes are retained when switching between DETAIL-1 and DETAIL-2-FRAME with the P9 key.

6.4.3 (ST) STATUS DISPLAY FRAME: CLUSTER

```
             ----- STATUS DISPLAY FRAME: CLUSTER -----         E02L01F

 CPU0 (#0)      ONL RUN                 CHBP0     PON
 CPU1 (#1)      ONL RUN
                                        MSU0            ONL
                                        MSU1            ONL
                                        SPC
                                        SCI
                                        SVP
                                        SYS       PON
 MCU0
 CHP0           ONL

 CHP2           ONL
                                    SYSTEM INFORMATION
                                     MEMORY      3 GB
                                     MODE         EXA
                                     FTOPS2    ENABLE

                                                        *PF8  SSU FRAME

               CL-0       CPU-0 CHP-0        RUN
                                                      M
                                                FLAG CODE = F6C0C100 00000F00
LTG                                                TAST
```

Figure 19: STATUS DISPLAY FRAME: CLUSTER screen

This frame displays information on the current status of the S130 and its individual components (Power on/off, online/offline, normal/maintenance state etc.). Unmounted components are not displayed. The memory size, operating system mode (BS2000 or VM2000), and availability of the SKP (FTOPS2 ENABLE) are important displays.

Special key functions

P8 Switches to the SSU FRAME (see next page)

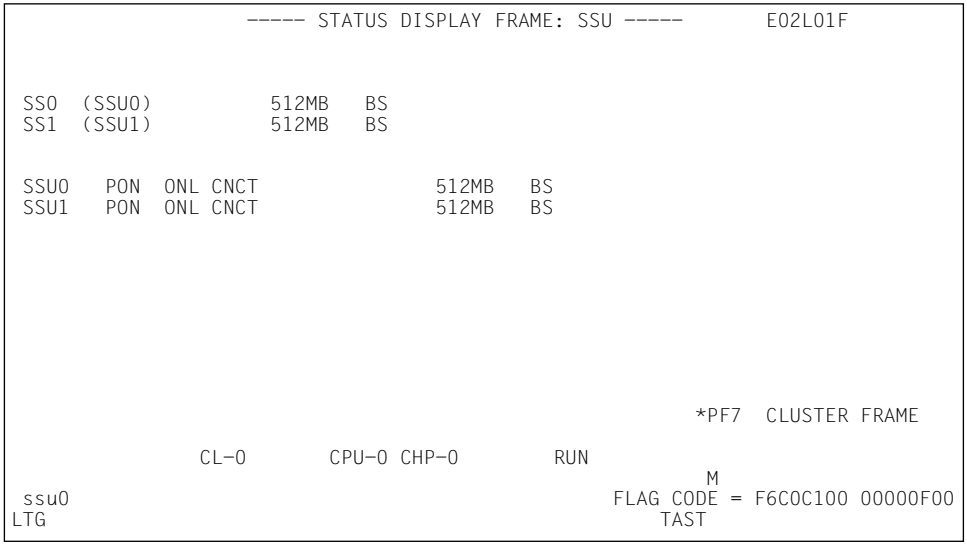


Figure 20: STATUS DISPLAY FRAME: SSU screen

This displays information on the status of the connected global storage. Memory size, battery status, power status, online status, and connect status are displayed.

Special key functions

P7 Switches to the CLUSTER FRAME (see previous page)

6.4.4 (MA) MANUAL OPERATION FRAME

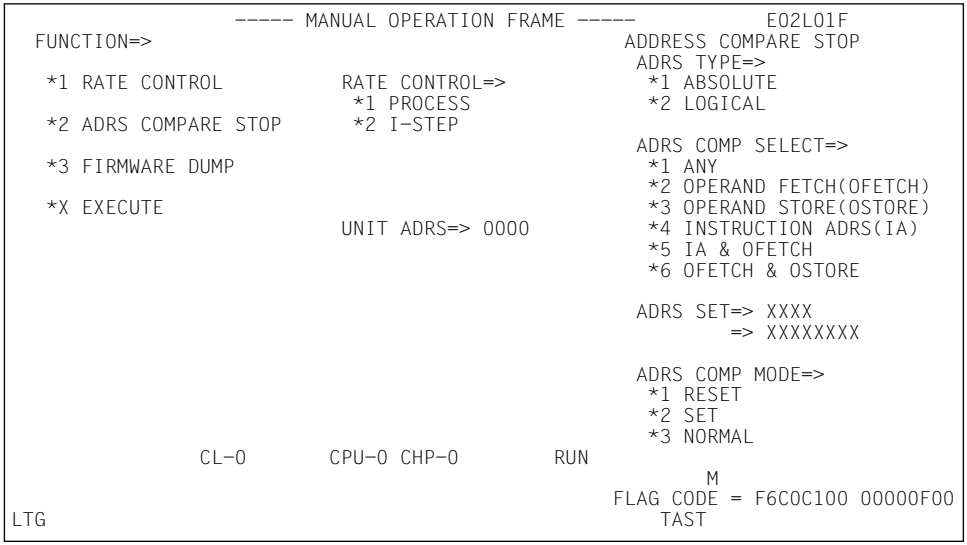


Figure 21: MANUAL OPERATION FRAME screen

By making an entry in this frame and pressing ENTER, you can execute various manual operations.

Instructions on this frame are only executed when the CPU has been stopped (see message in frame line 23). The CPU status is displayed in line 22.

1. Selection of a CPU with the P16 key.
2. Stopping of the selected CPU (see (ML) MODE SELECTION FRAME page 47)

FUNCTION => The following functions are executed after the corresponding number has been entered and the ENTER key pressed:

1	RATE CONTROL	defines program operation
2	ADRS COMPARE STOP	sets mode for compare address stop
3	FIRMWARE DUMP	executes firmware dump
X	EXECUTE	executes functions 1 - 3

The following table shows the additional entries required for each of the three main functions in other input fields:

	Input field					
Function	RATE CONTROL	UNIT ADRS	ADRS TYPE	ADRS COMP SELECT	ADRS SET	ADRS COMP MODE
1 RATE CONTROL	o	x	x	x	x	x
2 ADRS COMP STOP	x	x	o	o	o	o
3 FIRM DUMP	x	o	x	x	x	x

o: entry required
x: entry not required

RATE CONTROL => Defines program operation

1	PROCESS	continual program operation
2	I-STEP	step-by-step command execution

ADRS TYPE => Entry for address compare stop: entry under ADRS SET is

1	ABSOLUTE	an absolute address
2	LOGICAL	a logical address

ADRS COMP SELECT => Address compare stop if compare stop address is same as

1	ANY	any address
2	OPERAND FETCH(OFETCH)	operand read address
3	OPERAND(OSTORE)	operands write address
4	INSTRUCTION ADRS(IA)	instruction address
5	IA & OFETCH	instruction and operand read address
6	OFETCH & OSTORE	operand read and write address

UNIT ADRS => Device address for firmware dump

ADRS SET => Compare stop address

XXXX	Address area larger than 32 bits (not yet used)
XXXXXXXX	32-bit address

ADRS COMP MODE => Address compare stop mode

1	RESET	Switches off address compare stop and resets address compare stop conditions in the fields ADRS TYPE, ADRS COMP SELECT and ADRS SET
2	SET	Switches on address compare stop
3	NORMAL	Switches off address compare stop

6.4.5 (AD) ALTER/DISPLAY FRAME

```
                    ----- ALTER/DISPLAY FRAME ----          E02L01F
 FUNCTION =>
  *A ALTER
  *D DISPLAY
 FACILITY =>
  -- MEMORY --
  *L  LOGICAL
  *R  REAL
  *P  P-VIRTUAL
  *S  S-VIRTUAL
  *ABS   *KEY
  *V  A-VIRTUAL
  *I  H-VIRTUAL
  *SS  SS-REAL
  *SV  SS-VRTL

 ADRS=>
     =>

                                                          *PF9 CHANGE
                                                               FACILITY
               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                          FLAG CODE = F6C0C100 00000F00
LTG                                            TAST
```

Figure 22: ALTER/DISPLAY FRAME screen

You can use this frame to display and change the contents of the main memory, the memory protect key and global storage. It is a requirement that the selected CPU (P16 key) is stopped beforehand (see “(ML) MODE SELECTION FRAME” on page 47).

FUNCTION => The following functions are executed after the appropriate letter is entered and ENTER is pressed:

A	ALTER	change and modify memory contents
D	DISPLAY	display memory contents

FACILITY => Possible displays of memory areas with various addresses:

L	LOGICAL	logical storage address
R	REAL	real storage address
P	P-VIRTUAL	primary virtual storage address
S	S-VIRTUAL	secondary virtual storage address
ABS		absolute address
KEY		memory protect key
V	A-VIRTUAL	address areas virtual address
I	H-VIRTUAL	basic address area´s virtual address
SS	SS-REAL	SSU real address
SV	SS-VRTL	SSU virtual address

ADRS => Memory address

XXXX	address area larger than 32 bits (not yet used)
XXXXXXXX	32-bit address

Special key functions

P9 When you press this key, the following subframe is displayed:

```
                    ----- ALTER/DISPLAY FRAME ----          E02L01F
 FUNCTION =>
  *A ALTER
  *D DISPLAY
 FACILITY =>
 -- REGISTER --
  *GR    *PSW
  *CR    *FCR
  *FPR   *PRX
  *AR

  *XCR   *GSR
  *EX EPRX



 ADRS=>
     =>

                                                          *PF9 CHANGE
                                                               FACILITY
               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                          FLAG CODE = F6C0C100 00000F00
LTG                                           TAST
```

Figure 23: ALTER/DISPLAY FRAME screen

You can use this frame to change and display the contents of important CPU registers. It is a requirement that the selected CPU (P16 key) is stopped beforehand (see “(ML) MODE SELECTION FRAME” on page 47).

FUNCTION => The following functions are executed after the appropriate letter is entered and [ENTER] is pressed:

A	ALTER	change and modify register contents
D	DISPLAY	display register contents

FACILITY => Possible displays of registers:

GR	General register
PSW	Program status word
CR	Control register
FCR	Feature control register
FPR	Floating-point register
PRX	Prefix register
AR	Access register
XCR	Extended control register
GSR	Global scope register
EX EPRX	Extended prefix register

ADRS => no input required

Special key functions

[P9] returns to the frame for memory display

6.4.6 (ME) MESSAGE FRAME

```
                    ----- MESSAGE FRAME -----                E02L01F
NEWEST LINE = 0776
LINE ID  MESSAGE                                             MM/DD HH:MM:SS
0759 01  X2LA9 FUNCTION: ST                                   05/21 14:47:23
0760 01  X2SA9 SSUO                                          05/21 14:48:56
0761 01  E2SA1 COMMAND NOT FOUND                             05/21 14:48:56
0762 01  X2SA9 PF 8                                         05/21 14:49:14
0763 01  X2SA9 PF 3                                         05/21 14:50:30
0764 01  X2LA9 FUNCTION: MA                                 05/21 14:50:35
0765 01  E2M31 CPU NOT IN STOPPED STATE                     05/21 14:50:35
0766 01  X2MA9 PF 2                                         05/21 14:51:47
0767 01  E2MA2 UNSUPPORTED PF KEY                           05/21 14:51:47
0768 01  X2MA9 PF 3                                         05/21 14:51:56
0769 01  X2LA9 FUNCTION: AD                                 05/21 14:52:10
0770 01  E2B31 CPUO NOT IN STOPPED STATE                    05/21 14:52:11
0771 01  X2BA9 PF 9                                         05/21 14:53:48
0772 01  X2BOO COMMAND COMPLETED                            05/21 14:53:48
0773 01  X2BA9 PF 2                                         05/21 14:54:49
0774 01  E2BA2 UNSUPPORTED PF KEY                           05/21 14:54:49
0775 01  X2BA9 PF 3                                         05/21 14:55:15
0776 01  X2LA9 FUNCTION: ME                                 05/21 14:55:20
         CL-O       CPU-O CHP-O        RUN
                                                  M
                                       FLAG CODE = F6COC100 OOOOOFOO
LTG                                       TAST
```

Figure 24: MESSAGE FRAME screen

All SVP messages and commands to the SVP are stored in a message file and can be viewed in the MESSAGE FRAME.

Special key functions

P8 one page forwards, in the direction of the newer entries

P7 one page backwards, in the direction of the older entries

Entering a line command in line 24 permits you to display a certain entry in the uppermost line.

Example: `L 0800`

6.4.7 (CH) CH/SUBCH STATUS DISPLAY FRAME: CHANNEL

```
          ----- CH/SUBCH STATUS DISPLAY FRAME: CHANNEL -----    E02L01F
            CHP 0

      PCHAD 0000000000000000 1111111111111111 2222222222222222 3333333333333333
            0123456789ABCDEF 0123456789ABCDEF 0123456789ABCDEF 0123456789ABCDEF

      CHPID 0000000000000000 1111111111111111 2222222222222222 3333333333333333
            0123456789ABCDEF 0123456789ABCDEF 0123456789ABCDEF 0123456789ABCDEF

  INSTALLED ****....****.... ****....****.... ****....****.... ****************
  OP        ****....**.*.... ****....**.*.... ****....****.... ***.****........
  ON-LINE   ****....**.*.... ****....**.*.... ****....****.... ***..***........
  CH-TYPE   BBBB....BBBB.... BBBB....BBBB.... BBBB....BBBB.... BBBBBBBBBBBBBBBB
  IF-TYPE   EEEE....EE.E.... EEEE....EE.E.... EEEE....EEEE.... CCC.CCCC........
                                                               NNN NNNN

  FUNCTION =>
   1 CH  STATUS    CHP NO.=>
   2 SUBCH STATUS  CHPID  =>     LCHADR=>
                   LINKADR=>     LCUADR=>
   3 LINK STATUS   PCHAD  =>                                *PF11 DISPLAY CHP2
                CL-0       CPU-0 CHP-0        RUN
                                                    M
                                              FLAG CODE = F6C0C100 00000F00
LTG                                              TAST
```

Figure 25: CH/SUBCH STATUS DISPLAY FRAME: CHANNEL screen

By making entries in the input fields and pressing ENTER, you can display the status of the I/O system. Further subframes are supplied in connection with FUNCTION 2 and 3.

FUNCTION => The following information is displayed on the screen after the corresponding number has been entered:

1	CH STATUS	channel status (additional input in CHP NO field)
2	SUBCH STATUS	subchannel status (additional input in the field CHPID or LINKADR)
3	LINK STATUS	LINK status of a type-S channel (additional input in PCHAD field)

CHP NO => channel processor
0 ... 3

CHPID => channel path number
00 ... FF

LCHADR => logical channel address
no input required

LINKADR => link address for type-S channel
01 without director
with director:
00 ... FE output port address = link address

LCUADR => logische control unit address
no input required

PCHAD => physical channel address
00 ... FF

Special key functions

P10 Display of channel processor with next lower number.

P11 Display of channel processor with next higher number.

6.4.8 (AU) AUXILIARY FRAME: MENU

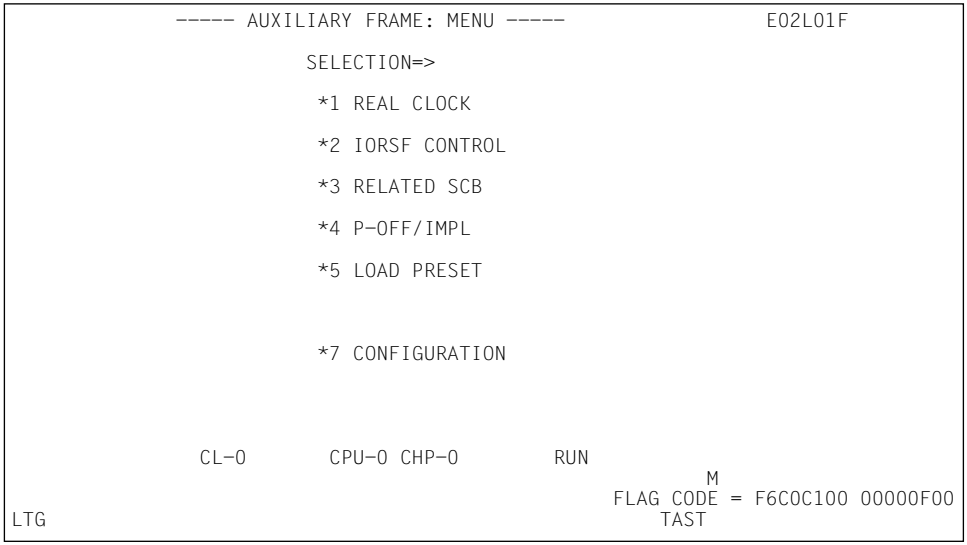


Figure 26: AUXILIARY FRAME: MENU screen

You can move to other frames by making entries in this menu frame and pressing ENTER.

SELECTION => The following subframes are displayed on the screen by entering the appropriate number:

1	REAL CLOCK	displaying/setting SVP clock	66
2	IORSF CONTROL	displaying/editing IORSF	67
3	RELATED SCB	memory size for related SCBs	68
4	P-OFF/IMPL	executing POWER OFF or IMPL	69
5	LOAD PRESET	presetting LOAD FRAME	70
7	CONFIGURATION	displaying/setting SSU configuration	72

6.4.8.1 (AU1) AUXILIARY FRAME: REAL CLOCK

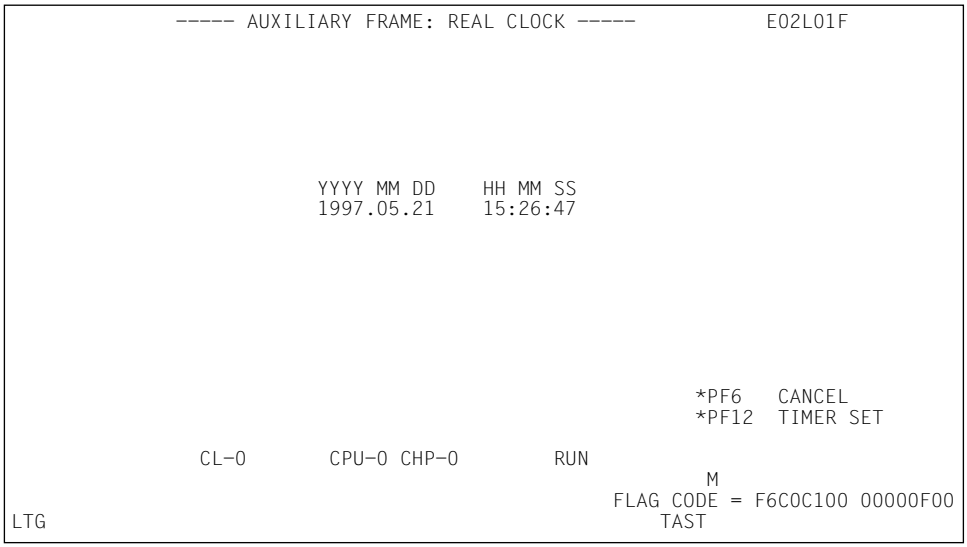


Figure 27: AUXILIARY FRAME: REAL CLOCK screen

When the screen is invoked, the current date and time of the SVP are displayed. Press the K1 key before making an entry.

Corrections can be entered in the line below. These corrections take effect when the P12 key is pressed.

The SKP cyclically synchronizes the SVP clock with the SINIX time (message: `SET TIME COMMAND COMPLETED`).

Special key functions

P6 Delete input

P12 Corrections are carried out by the SVP

6.4.8.2 (AU2) AUXILIARY FRAME: IORSF CONTROL

```
             ----- AUXILIARY FRAME: IORSF CONTROL -----        E02L01F

       NO.    COMMENT
       0      S130TA1 // \UGENDATA.HW.S130.TA1.OSD.S130TA1 / 07.05.97
                      DATE 1997.04.30     TIME 16:00
       1      S130TA1X // \UGENDATA.HW.S130.TA1.OSD.S130TA1X / 07.05.97
                      DATE 1997.04.30     TIME 16:07
    P  2      S130TA1 // \UGENDATA.HW.S130.TA1.OSD.S130TA1 / 20.05.97
                      DATE 1997.05.14     TIME 15:20
    P  3      S130TA1X // \UGENDATA.HW.S130.TA1.OSD.S130TA1X / 20.05.97
                      DATE 1997.05.14     TIME 15:43




  FUNCTION=>                                              CURRENT NO. = 3
  *1 SET NO         NEXT POWER ON RESET NO. => 3
  *2 PROTECT        SPECIFY P(PROTECT) OR U(UNPROTECT)
  *3 SWAP           SPECIFY SWAP NO.            <=>
                                                          *PF8 NEXT PAGE

              CL-0       CPU-0 CHP-0        RUN
                                                    M
                                                FLAG CODE = F6C0C100 00000F00
LTG                                                TAST
```

Figure 28: AUXILIARY FRAME: IORSF CONTROL screen

The IORSF files are displayed in this file. The file number of the current IORSF is displayed in the `CURRENT NO. =` field.

When you select a function and press the ENTER key, parameters are required in the other input fields. Once you have entered the parameters and pressed the ENTER key, the functions for the IORSF files are executed.

FUNCTION => The following functions are executed when the appropriate number is entered:

1	SET NO	activates an IORSF. Entry of the set number in the `NEXT POWER ON RESET NO. =>` field. An IMPL is then required (see AU4 frame on page 69).
2	PROTECT	engages/disengages IORSF protection from being overwritten: enter `P` or `U` before the appropriate number
3	SWAP	swaps two IORSFs: enter the numbers in the `SPECIFY SWAP NO` fields.

NEXT POWER ON RESET NO. =>

Enter the number of the IORSF file which is to be activated after the next IMPL. You can only make an entry if you select function 1 beforehand.

SPECIFY SWAP NO. <=>

Enter two file numbers which are to be swapped. You can only make entries if you select function 1 beforehand.

Special key functions

P8 Sets 4 to 7 are displayed

P7 Sets 0 to 3 are displayed

6.4.8.3 (AU3) AUXILIARY FRAME: RELATED SCB'S

i This frame is intended exclusively for use by the service department.

```
          ----- AUXILIARY FRAME: RELATED SCB'S -----        E02L01F




           NUMBER OF RELATED SCB'S             => 04 K

           NUMBER OF OCLINK-CNC LOGICAL PATH'S => 00000









                                                          *PF6  CANCEL
                                                          *PF12 CATALOG

           CL-0       CPU-0 CHP-0        RUN
                                                    M
                                               FLAG CODE = F6C0C100 00000F00
LTG                                               TAST
```

Figure 29: AUXILIARY FRAME: RELATED SCB'S screen

An entry in this frame sets the memory size for related SCBs (related Subchannel Control Block). Values from 01 to 16 are possible.

Special key functions

P6 erase input

P12 save input in SVP

6.4.8.4 (AU4) AUXILIARY FRAME: P-OFF/IMPL

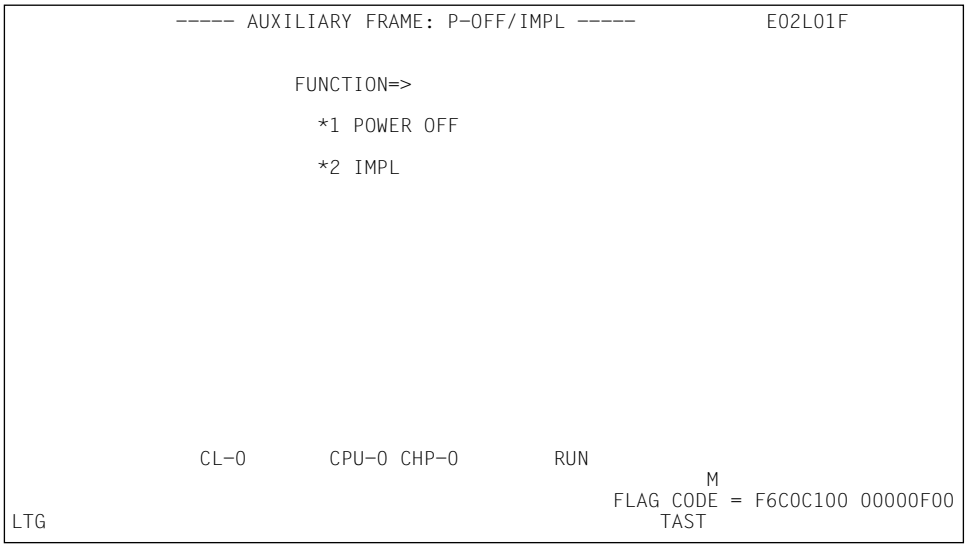


Figure 30: AUXILIARY FRAME: P-OFF/IMPL screen

By making an entry in this frame and pressing ENTER, you can switch the S130 off or re-initialize it.

FUNCTION => The following functions are executed when the appropriate number is entered:

1	POWER OFF	switches S130 off, order: first devices connectec to the PCI (Power Control Interface), then CPU (further information on this can be found on page 15 and page 22)
2	IMPL	executes IMPL

After you have selected a function and pressed ENTER, the following prompt will appear:

```
**********************************
*                                *
* ARE YOU SURE ? (ENTER Y OR N) N *
*                                *
**********************************
```

The IMPL or POWER OFF must not be executed during system operation! If this instruction is not heeded, BS2000 will be terminated abruptly!

► Press Y and ENTER to switch off the system or to execute an IMPL, or N and ENTER to cancel the procedure.

6.4.8.5 (AU5) AUXILIARY FRAME: LOAD PRESET1

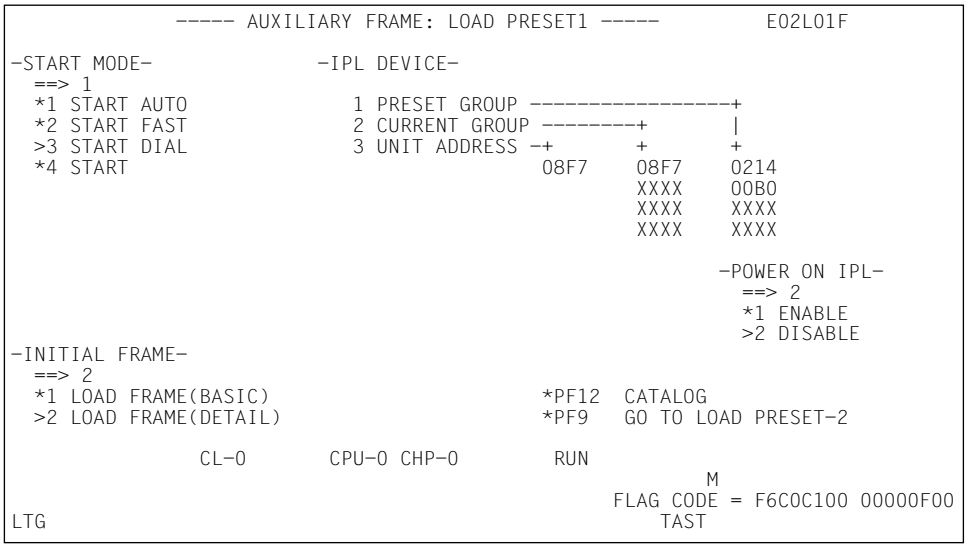


Figure 31: AUXILIARY FRAME: LOAD PRESET1 screen

You can predefine the execution of an IPL by making an entry in this frame and pressing ENTER:

START MODE => Predefine the loading mode by entering the appropriate number and comment for the BS2000 loading mode:

1	START **AUTO**	for automatic startup
2	START **FAST**	for fast startup
3	START **DIAL**	for dialog startup
4	START	not used

IPL DEVICE => Entries in this field specify from which device an IPL should be executed.

1 PRESET GROUP Up to four unit addresses can be entered in the input field for PRESET GROUP. The operating system is loaded from the first device (IPL). In the case of an error, the IPL is executed by the next device listed.

POWER ON IPL =>

Here you determine the behavior of the SVP after an IMPL.

1	ENABLE	automatically executes IPL after IMPL
2	DISABLE	does not execute IPL, i.e. IPL must be triggered manually using PROGRAM LOAD FRAME: BASIC or PROGRAM LOAD FRAME: DETAIL-1.

INITIAL FRAME =>

Here you can set the display form of the PROGRAM LOAD FRAME.

1	LOAD FRAME (BASIC)	PROGRAM LOAD FRAME: BASIC (see page 50)
2	LOAD FRAME (DETAIL)	PROGRAM LOAD FRAME: DETAIL-1 (see page 51)

Special key functions

P12 catalog settings

P9 switches to LOAD PRESET2 screen

```
              ----- AUXILIARY FRAME: LOAD PRESET2 -----          E02L01F

-VM MODE-           -EXA MODE-
  ==> 1               ==> 1
  >1 NATIVE           >1 ENABLE
  *2 EMOS             *2 DISABLE
  *3 AVM/EX




-START IPL NO-
  ==> 1
  *1 FIX(1)
  >2 CURRENT



                                          *PF12  CATALOG
                                          *PF9   GO TO LOAD PRESET-1

                CL-0       CPU-0 CHP-0        RUN
                                                    M
                                        FLAG CODE = F6C0C100 00000F00
LTG                                                TAST
```

Figure 32: AUXILIARY FRAME: LOAD PRESET2 screen

You can set the operation mode by making an entry in this frame and pressing the P12 key.

VM MODE => Selection of the firmware to be loaded from SVP

1	NATIVE	for BS2000 operation
2	EMOS	not used on the S130 Business Server
3	AVM/EX	for VM2000 operation

EXA MODE => Selection of addressing mode

1 ENABLE extended XA mode
2 DISABLE not used on the S130 Business Server

START IPL NO => Selection of the IPL Start Mode number

1 FIX(1) Start Mode number 1 (automatic start)
2 CURRENT Start Mode number of most recently executed IPL.

Special key functions

P12 catalogs settings

P9 switches to the LOAD PRESET-1 screen

6.4.8.6 (AU7) AUXILIARY FRAME: SSU-CLUSTER CONFIGURATION

```
   ----- AUXILIARY FRAME: SSU-CLUSTER CONFIGURATION -----      E02L01F
FUNCTION=>                                                    DISPLAY CFR
 *1 DISPLAY CFR            SSU0 ---------------------------------------------+
 *2 INIT CFR FILE NO.=> 3  |          CAP=    512 MB                MASTER    |
 *3 DISPLAY FILE           | CNCT   C    C                                   |
                           | ONL    Y    Y                                   |
                           +--------+----+----+----+----+----+----+----+----+
                                    |    |
                           CLUSTER -+----+----+----+----+----+----+----+----+
 *X EXECUTE                | ID    >0    1                                   |
                           | ADRS   0    1                                   |
CFR FILE NO.=>             | STAT                                            |
 *0 CL0-SS0,CL1-SS1        +--------+----+----+----+----+----+----+----+----+
 *1 CL0-2SSU                        |    |
 *2 CL1-2SSU               SSU1 ----+----+----+----+----+----+----+----+----+
 *3 2CL-2SSU               | ONL    Y    Y                                   |
                           | CNCT   C    C                                   |
SS0 CAP=    512 MB         |          CAP=    512 MB                         |
SS1 CAP=    512 MB         +-------------------------------------------------+
                            DUPLICATE BOUNDARY ADDRESS=     16 GB

               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                              FLAG CODE = F6C0C100 00000F00
LTG                                              TAST
```

Figure 33: AUXILIARY FRAME: SSU-CLUSTER CONFIGURATION screen

This frame shows the status of the connected global storage (only if SSU is connected). By making entries in the input fields and pressing ENTER, you can display and select configurations.

FUNCTION => The following functions are carried out by entering the appropriate number:

1	DISPLAY CFR	displays current configuration
2	INIT CFR FILE NO.	activates selected FILE after IMPL, enter a number in the `INIT CFR FILE NO. =>` field
3	DISPLAY FILE	displays configuration file, enter a number in the `CFR FILE NO. =>` field
X	EXECUTE	executes the last function entered

INIT CFR FILE NO. => Selection of a configuration file for function 2

CFR FILE NO. => Selection of a configuration file for function 3

0	CL0-SS0, CL1-SS1	configuration file 0 with comments
1	CL0-2SSU	configuration file 1 with comments
2	CL1-2SSU	configuration file 2 with comments
3	2CL-2SSU	configuration file 3 with comments

“Comment” refers to the contents of the configuration file. This is entered by the service department.

The service department can define configuration files in which links between two S130s (Cluster 0 and 1) and two SSUs (SSU0 and SSU1) can be configured on ONL (online Y or N).

A connection (CNCT C) is either set by the service department and IMPL (for OSD V1 and V2) or (as of OSD V3) by operating system commands. figure 33 shows a configuration with which a computer connection can be achieved via global storage (SCMP).

6.4.9 (MF) MSF FRAME

```
          ----- MSF FRAME: FLAG CODE LOG DISPLAY -----          E02L01F

 INITIALIZED  1997.02.13 10:26:19
 LAST SEQ  3751                                                  NODE:SELF
                                                                       1/ 9
   SEQ   UNIT          FLAG CODE      DATE    TIME   CT  KIND  LINK INFORMATION
 *3751   ICC     A6 7151 10 091D1F00  05.21 15:16:21     ATTN        HC29 SP1
 *3750   ICC     A6 7151 10 091C1F00  05.21 15:16:10     ATTN        HC28 SP4
 *3749   ICC     A6 7151 10 091B1F00  05.21 15:15:59     ATTN        HC27 SP3
 *3748   ICC     A6 7151 10 091A1F00  05.21 15:15:48     ATTN        HC26 SP2
 *3747   ICC     A6 7A13 10 08401F00  05.21 15:14:24     ATTN        HC25
 *3746   ICC     A6 7A13 10 49A01F00  05.21 15:14:13     ATTN        HC24
 *3745   ICC     A6 7A13 10 18111F00  05.21 15:14:02     ATTN        HC23
 *3744   ICC     A6 7A13 10 49941F00  05.21 15:13:51     ATTN        HC22
 *3743   ICC     A6 7A13 10 18281F00  05.21 15:13:40     ATTN        HC21
 *3742   ICC     A6 7A13 10 49831F00  05.21 15:13:29     ATTN        HC20
  3741   ICC     A6 7151 10 09111F00  05.21 15:13:17     ATTN        HC19
  3740   ICC     A6 7A13 10 49811F00  05.21 15:13:06     ATTN        HC18
  3739   ICC     A6 7151 10 09101F00  05.21 15:12:55     ATTN        HC17
  3738   ICC     A6 7A13 10 49801F00  05.21 15:12:44     ATTN        HC16
                                    PF1:HELP  PF7:PREV PAGE  PF8:NEXT PAGE
               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                          FLAG CODE = A6715110 091D1F00
LTG                                           TAST
```

Figure 34: MSF FRAME screen

The SVP logs all FLAG codes, whereby the most recent code is generally shown in line 24.

Special key functions

P7 one page backwards, in the direction of the newer entries

P8 one page forwards, in the direction of the older entries

Frame line 24:

You can switch to FLAG code entries of other components by making the following entries in line 24:

ssu0: FLAG code entries of SSU0

ssu1: FLAG code entries of SSU1

self: back to the FLAG code entries of the cluster

```
          ----- MSF FRAME: FLAG CODE LOG DISPLAY -----          E02L01F

 INITIALIZED  1997.02.13 09:56:29
 LAST SEQ  0055                                                  NODE:SSU0
                                                                       1/ 2
   SEQ   UNIT          FLAG CODE      DATE    TIME   CT  KIND  LINK INFORMATION
  0055           FD 7150 00 01001E00  05.12 16:33:09 005 SVP
                                      05.21 14:01:21
  0054           F6 C0A0 00 00001E00  05.12 10:48:28 004 SVP
                                      05.12 10:50:35
  0053           80 8010 20 00560E00  05.05 13:42:40     MCK
  0052           FD 7150 00 01001E00  04.24 16:41:57 003 SVP
                                      04.28 15:38:50
  0051           F0 4098 00 01021E00  04.24 08:25:17     SVP
  0050           F0 4098 00 00011E00  04.24 08:17:15     SVP
  0049           FD 7150 00 01001E00  04.14 10:45:47 003 SVP
                                      04.23 14:40:57
  0048           E0 400C 00 00001E00  04.11 06:33:39     SVP
  0047           F0 4098 00 01021E00  04.11 06:19:13     SVP

                                   PF1:HELP  PF7:PREV PAGE  PF8:NEXT PAGE
               CL-0       CPU-0 CHP-0        RUN
                                                        M
                                                FLAG CODE = F6C0C100 00000F00
LTG                                                 TAST
```

6.4.10 (PA) PERFORMANCE ANALYZER

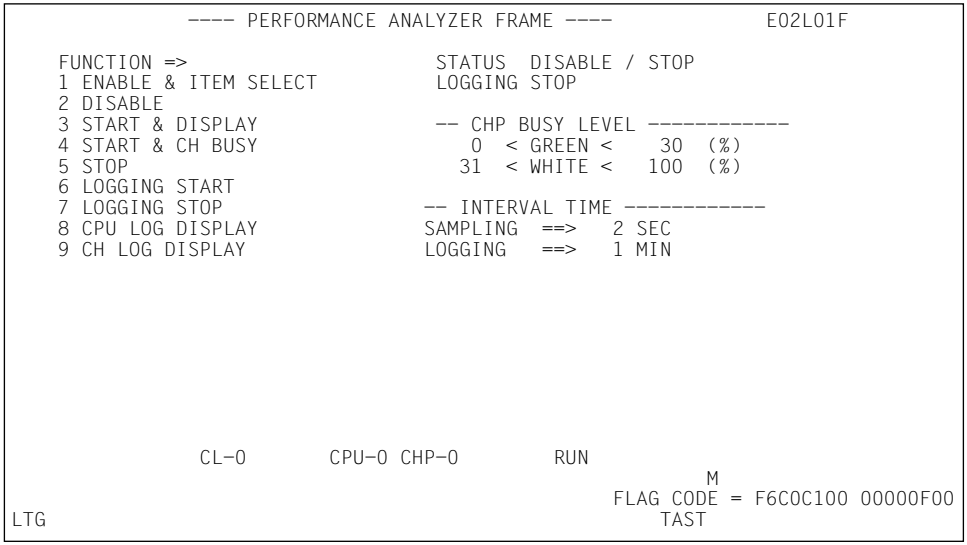


Figure 35: PERFORMANCE ANALYZER FRAME screen

The PA frame is not intended for use.

6.5 Examples of standard processing in SVP mode

6.5.1 Selecting IORSF

The steps listed below are conditions for the loading of a particular IORSF at the next IMPL or the next time the system is switched on.

In the following example the IORSF is selected with Level 2.

Conditions

You must have selected the “SVPST0 #1 (computer name)” window, created a link to the $KVPHV0, and entered the correct password.

The MODE SELECTION FRAME is displayed:

```
                  ----- MODE SELECTION FRAME -----            E02L01F
  FUNCTION=>

  - EXECUTION -             - SELECTION -              CPU SELECT=>
                                                       ( 0 1             )
  *1 CPU STOP               *LD PROGRAM LOAD
                            *ST STATUS DISPLAY
  *2 INTERRUPT              *MA MANUAL OPERATION       STOP/START MODE=>
                            *AD ALTER/DISPLAY
  *3 TOD ENABLE             *ME MESSAGE                 *1 ALL CPU
                            *CH CH/SUBCH STATUS         >2 TARGET CPU
  *4 SYSTEM RESET           *AU AUXILIARY
                            *MF MSF
  *5 SYSTEM RESET CLEAR     *PA PERFORMANCE ANALYZER

  *6 STORE STATUS

  *7 RESTART



               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                              FLAG CODE = F6C0C100 00000F00
LTG                                              TAST
```

Figure 36: MODE SELECTION FRAME screen

Invoking AUXILIARY FRAME: MENU screen

- Enter `AU` in the `FUNCTION=>` field and press ENTER

 or

- Enter the `FR AU` command in line 24 and press ENTER.

The AUXILIARY FRAME: MENU screen is displayed

```
          ----- AUXILIARY FRAME: MENU -----                E02L01F

                    SELECTION=>

                     *1 REAL CLOCK

                     *2 IORSF CONTROL

                     *3 RELATED SCB

                     *4 P-OFF/IMPL

                     *5 LOAD PRESET


                     *7 CONFIGURATION



           CL-0       CPU-0 CHP-0        RUN
                                                    M
                                          FLAG CODE = F6C0C100 00000F00
LTG                                           TAST
```

Figure 37: AUXILIARY FRAME: MENU screen

Invoking IORSF Control Frame

► Enter `2` in the `SELECTION=>` field. Press ENTER.



If the frame code `AU2` is entered in the MODE SELECTION FRAME or the `FR AU2` command is entered in line 24, the following frame is displayed.

The AUXILIARY FRAME: IORSF CONTROL screen is displayed:

```
              ----- AUXILIARY FRAME: IORSF CONTROL -----        E02L01F

        NO.    COMMENT
        0      S130TA1 // \UGENDATA.HW.S130.TA1.OSD.S130TA1 / 07.05.97
                       DATE 1997.04.30     TIME 16:00
        1      S130TA1X // \UGENDATA.HW.S130.TA1.OSD.S130TA1X / 07.05.97
                       DATE 1997.04.30     TIME 16:07
    P   2      S130TA1 // \UGENDATA.HW.S130.TA1.OSD.S130TA1 / 20.05.97
                       DATE 1997.05.14     TIME 15:20
    P   3      S130TA1X // \UGENDATA.HW.S130.TA1.OSD.S130TA1X / 20.05.97
                       DATE 1997.05.14     TIME 15:43




  FUNCTION=>                                                CURRENT NO. = 3
  *1 SET NO          NEXT POWER ON RESET NO. => 3
  *2 PROTECT         SPECIFY P(PROTECT) OR U(UNPROTECT)
  *3 SWAP            SPECIFY SWAP NO.            <=>
                                                          *PF8 NEXT PAGE

               CL-0       CPU-0 CHP-0        RUN
                                                        M
                                              FLAG CODE = F6C0C100 00000F00
LTG                                                TAST
```

Figure 38: AUXILIARY FRAME: IORSF CONTROL screen

The first four IORSF are displayed in the upper portion of the screen. You can switch to the next four with the P8 key, and back with the P7 key.

In this example the IORSF with the number 3 is active.

Display: `CURRENT NO. = 3`

Now you want to activate the IORSF with the number 2:

- Enter `1` in the `FUNCTION=>` field. Press ENTER.
- Enter `2` in the `NEXT POWER ON RESET NO.=>` field and press ENTER.

6.5.2 Activating IORSF

The set IORSF must be activated with a IMPL:

Conditions

You must be in the AUXILIARY FRAME: IORSF CONTROL screen.

- ► Press P3 to switch back to the AUXILIARY FRAME: MENU.
- ► Enter 4 in the SELECTION=> field. Press ENTER.

 The AUXILIARY FRAME: P-OFF/IMPL screen is displayed:

```
            ----- AUXILIARY FRAME: P-OFF/IMPL -----          E02L01F

                       FUNCTION=>

                         *1 POWER OFF

                         *2 IMPL









              CL-0       CPU-0 CHP-0        RUN
                                                    M
                                          FLAG CODE = F6C0C100 00000F00
LTG                                                   TAST
```

Figure 39: AUXILIARY FRAME : P-OFF/IMPL screen

- ► Enter 2 in the FUNCTION=> field to execute an IMPL. Then press ENTER.

 The following prompt appears:

```
************************************
*                                  *
* ARE YOU SURE ? (ENTER Y OR N) N *
*                                  *
************************************
```



The IMPL must not be executed during system operation!

- ► Press Y to execute the IMPL or N, to cancel the procedure. Confirm your entry with ENTER.

6.5.3 Setting up PROGRAM LOAD FRAME PRESET1

In this example, you specify:

- LOAD function 1 with the name AUTO (AUTO=Automatic Startup) for a POWER ON IPL
- Device number of the IPL device to be used for a POWER ON IPL (current: 0108)
- Automatic IPL after a POWER ON
- The LOAD FRAME should always be displayed as PROGRAM LOAD FRAME: DETAIL-1.

Conditions

You must have selected the “SVPST0 #1 (computer name)”’ window, created a link to the $KVPHV0, and entered the correct password.

The MODE SELECTION FRAME is displayed on the screen (see page 77).

Invoke AUXILIARY FRAME: LOAD PRESET1 screen

► Enter `AU` in the `FUNCTION=>` field and then press ENTER,

or

► enter the `FR AU` command in line 24 and press ENTER.

The AUXILIARY FRAME: MENU screen is displayed (see page 78).

► Enter `5` in the `SELECTION=>` field. Press ENTER.

The AUXILIARY FRAME: LOAD PRESET1 screen is displayed:

```
             ----- AUXILIARY FRAME: LOAD PRESET1 -----         E02L01F

-START MODE-              -IPL DEVICE-
  ==> 1
  *1 START AUTO              1 PRESET GROUP ------------------+
  *2 START FAST              2 CURRENT GROUP ---------+       |
  >3 START DIAL              3 UNIT ADDRESS -+        +       +
  *4 START                                   A108     A108    0108
                                                      XXXX    XXXX
                                                      XXXX    XXXX
                                                      XXXX    XXXX

                                                             -POWER ON IPL-
                                                               ==> 1
                                                               *1 ENABLE
                                                               >2 DISABLE
-INITIAL FRAME-
  ==> 2
  *1 LOAD FRAME(BASIC)                     *PF12  CATALOG
  >2 LOAD FRAME(DETAIL)                    *PF9   GO TO LOAD PRESET-2

               CL-0       CPU-0 CHP-0        RUN
                                                        M
                                              FLAG CODE = F6C0C100 00000F00
LTG                                                TAST
```

Figure 40: AUXILIARY FRAME : LOAD PRESET1 screen



You can reach this screen directly from the MODE SELECTION FRAME by entering the frame code `AU5` in the `FUNCTION=>` field or the command `FR AU5` in line 24 and pressing ENTER.

START MODE => Enter `1` for automatic start of the BS2000.

IPL DEVICE

PRESET GROUP A unit address from which the operating system is loaded (IPL) must be entered in the input field for `PRESET GROUP`. A maximum of three further addresses can be entered.
Entry in our example: `0108`.

POWER ON IPL => Enter `1` for automatic IPL after POWER ON.

INITIAL FRAME => Enter `2` for a detailed display of the LOAD FRAME.

Catalog parameters

► Press the P12 key.

The values entered are saved and thus made known to the SVP. These settings are accessed for each IPL.

6.5.4 Setting up PROGRAM LOAD FRAME PRESET2

In the PROGRAM LOAD FRAME PRESET2 you specify which operating mode is to be set after the S130 system is switched on.

The following are specified in the example below:

- VM2000 operating mode
- EXA mode
- Automatic startup of the operating system

Conditions

You must be in the AUXILIARY FRAME: LOAD PRESET1 screen.

Invoke AUXILIARY FRAME: LOAD PRESET2 screen

► Press the P9 key in the AUXILIARY FRAME: LOAD PRESET1 screen

The AUXILIARY FRAME: LOAD PRESET2 screen is displayed:

```
             ----- AUXILIARY FRAME: LOAD PRESET2 -----         E02L01F

-VM MODE-           -EXA MODE-
  ==> 3               ==> 1
  >1 NATIVE           >1 ENABLE
  *2 EMOS             *2 DISABLE
  *3 AVM/EX




-START IPL NO-
  ==> 1
  *1 FIX(1)
  >2 CURRENT



                                          *PF12  CATALOG
                                          *PF9   GO TO LOAD PRESET-1

               CL-0       CPU-0 CHP-0        RUN
                                                    M
                                               FLAG CODE = F6C0C100 00000F00
LTG                                               TAST
```

Figure 41: AUXILIARY FRAME: LOAD PRESET2 screen

VM MODE => Enter 3 for VM2000 operation.

EXA MODE => Always enter 1.

START IPL NO => Enter 1.

Catalog parameters

► Press the P12 key.

The values entered are saved and thus made known to the SVP. These settings are accessed for each IPL.

6.5.5 Executing IPL in PROGRAM LOAD FRAME: DETAIL-1

The IPL can be executed manually 1according to the setting using PROGRAM LOAD FRAME DETAIL-1.

The following are specified in the example below:

- loading VM2000
- dialog startup
- IPL device is specified manually by the entry of the unit address (here: loading the BS2000 from a device with the unit address A108)

Conditions

You must be in the AUXILIARY FRAME: LOAD PRESET2 screen.

Invoking the PROGRAM LOAD FRAME: DETAIL-1 screen

► Press the F3 key to return to the MODE SELECTION FRAME.

► Enter the frame code `LD` and press ENTER.
Or enter the `FR LD` command in line 24 and press ENTER.

> **i** After entering `LD` or `FR LD` in the MODE SELECTION FRAME, either the PROGRAM LOAD FRAME: DETAIL-1 or the PROGRAM LOAD FRAME: BASIC screen is displayed, depending on the INITIAL FRAME setting in the AUXILIARY FRAME: LOAD PRESET1 screen (see page 82).

In this example, the PROGRAM LOAD FRAME: DETAIL-1 screen is displayed:

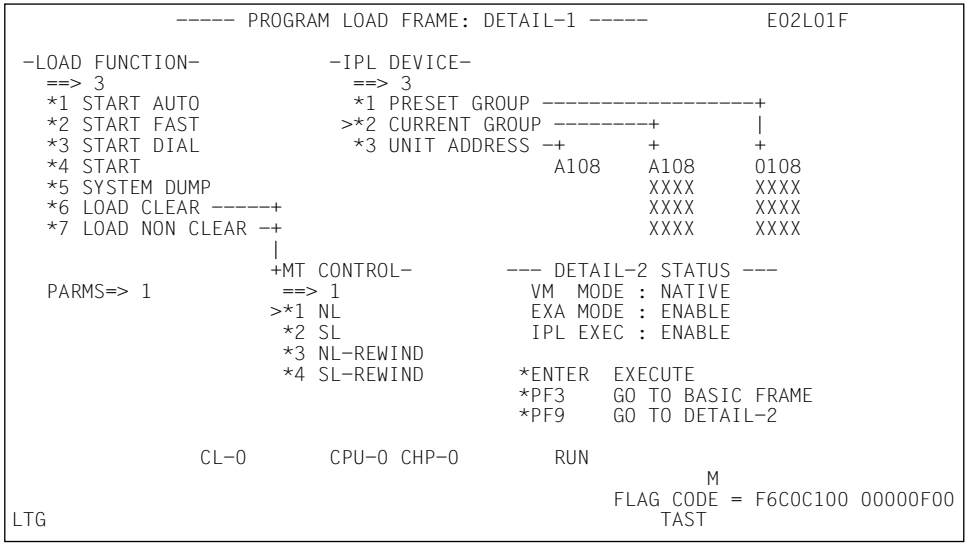


Figure 42: PROGRAM LOAD FRAME: DETAIL-1 screen

LOAD FUNCTION => Enter `3` for dialog startup.

IPL DEVICE => Enter `3`.

UNIT ADDRESS => Enter the device address of the load device.

In this example, the previous IPL was executed successfully from the current device with device address `A108`. Thus the desired address is already in the `UNIT ADDRESS` field. It was also entered in the `CURRENT GROUP` field by the SVP. Entering a `2` in the `IPL DEVICE` field loads the operating system from the desired device.

PARMS => Enter `1` in the first position of the field to load VM2000.

MT CONTROL => `1` is preset. This parameter is only important for loading from tape.

DETAIL-2 STATUS

The settings in DETAIL-2 FRAME are displayed in detail.

Check the settings. If they are correct, execute the IPL (see below), if not, correct the entries in DETAIL-2 FRAME (see section “Setting operating mode via PROGRAM LOAD FRAME: DETAIL-2” on page 87).

In our example `VM MODE: NATIVE`, i.e. the firmware for the BS2000 operation is loaded. This setting must be changed in DETAIL-2 FRAME for this example.

Swap to PROGRAM LOAD FRAME: DETAIL-2

► Press the P9 key.

This saves the entries in DETAIL-1 FRAME in the SVP and opens the DETAIL-2 FRAME.

Execute IPL

► Press ENTER after you have checked all the settings.

The following prompt appears on the screen:

```
**********************************
*                                *
* ARE YOU SURE ? (ENTER Y OR N) N *
*                                *
**********************************
```

Press Y to execute the IPL, or N to cancel the procedure. Confirm your entry with ENTER.

6.5.6 Setting operating mode via PROGRAM LOAD FRAME: DETAIL-2

The operating mode can be reset using the PROGRAM LOAD FRAME: DETAIL-2. This selects the appropriate firmware for running BS2000 or VM2000.

The following are specified in the example below:

- VM2000 operating mode
- executing IPL after reloading the firmware

Conditions

You must be in the PROGRAM LOAD FRAME: DETAIL-1 screen.

Invoke PROGRAM LOAD FRAME: DETAIL-2 screen

► Press the P9 key.

The PROGRAM LOAD FRAME: DETAIL-2 screen appears:

```
             ----- PROGRAM LOAD FRAME: DETAIL-2 -----          E02L01F

 -VM MODE-          -EXA MODE-       -IPL EXECUTION-
   ==> 3              ==> 1            ==> 1
   *1 NATIVE         >*1 ENABLE       >*1 ENABLE
   *2 EMOS            *2 DISABLE       *2 DISABLE
  >*3 AVM/EX




                                      *ENTER  EXECUTE
                                      *PF3    GO TO BASIC FRAME
                                      *PF9    GO TO DETAIL-1

               CL-0       CPU-0 CHP-0        RUN
                                                 M
                                      FLAG CODE = F6C0C100 00000F00
LTG                                                  TAST
```

Figure 43: PROGRAM LOAD FRAME: DETAIL-2 screen

VM MODE => Enter 3 for VM2000 operation.

EXA MODE => Always enter 1.

IPL EXECUTION => Enter 1.

Activating settings

► After you have checked all the settings, press ENTER.

The following prompt appears:

```
**********************************
*                                *
* ARE YOU SURE ? (ENTER Y OR N) N *
*                                *
**********************************
```

Press Y to execute the IPL or N to cancel the procedure. Confirm your input with ENTER.

7 Operating the BS2000 console

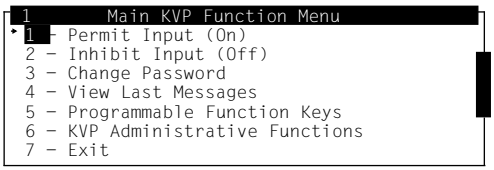
Selecting the console window

At the operator terminal, you enter system operating mode by clicking the window CONS0 #1<computer name> with the left mouse button.

System operation

When the BS2000 console window is opened, no input is permitted. If you attempt to make an entry, you are prompted to release the window by entering the valid password. You do this using the MENU function.

Press the MENU key to display the main KVP function menu.



Use the keys ↑, ↓ and ENTER to select and start the functions provided on the main KVP function menu.

► Select function 1 and enter the password for the cons0 user ID. Confirm your input by pressing the ENTER key.

You can then enter BS2000 commands or respond to queries from the BS2000 system. Your input is transferred to BS2000 when you press the ENTER key.

V7 You will find further information on the functionality of the main KVP function menu and on using special key functions in “BS2000 CONSOLE mode” in the “SINIX-2000 V7.0“ [1] manual.

8 Troubleshooting

This chapter describes what to do out in case of malfunction.

Problems with the S130 page 91

- Displays if there is a hardware error page 92
- Carrying out a system dump page 93
- Measures to take if there is an I/O processor failure page 93
- Measures to take if there is a processing computer failure page 94

Problems with the service/console processor (SKP) page 97

8.1 Problems with the S130

In the case of a problem with the S130, contact the service department and discuss the steps to be taken. Depending on the outcome of this discussion, you may be required to carry out the following tasks:

– Take a system dump in the case of an inexplicable system failure.

– Disable defective I/O processors if several I/O processors are available.
You can continue processing with the rest of the system.

– Disable defective processing units, if several are available.
You can continue processing with the rest of the system.

– If one of the MCU, SVP, SCI, SPC, or PCI system components is defective, contact the service department.

The next section explains how the S130 informs you of hardware errors.

8.1.1 Displays in the case of a hardware error

The S130 informs you of hardware errors in the following manner:

- On the S130 control panel

 If the yellow CHECK light illuminates, there may be a hardware error.
 At the same time, the FLAG code appears on the LCD display. This can indicate an error in the service processor or a machine error.

- On the screen of the SKP console in the SVPST0 window

 On the SKP console, displays in line 24 in the SVPST0 window of the SVP frame can indicate a hardware error. Evaluation of the FLAG code is carried out by the service department. The following diagram shows the format of the error display:



Figure 44: FLAG code display in line 24 of the SVPST0 screen

The FLAG code FF . . . FF can have different meanings and can therefore require different measures:

– A WRITE-CONSOL message is displayed. It can be deleted with the F3 key. This does not delete the FLAG code display.

– A warning is issued, e.g. if the room temperature is too high. The cause of the error must be eradicated. System operation can continue in the meantime.

– An error has occurred in the S130 or on the interface to the peripheral devices which was automatically corrected by the hardware. In this case, system operation can also be continued.

– An error has occurred which does not permit system operation to be continued.

In the last case, you can take the following measures:

If the system is down, execute an IMPL. If this does not solve the problem, contact the service department and discuss what steps should be taken.

8.1.2 Carrying out a system dump

Conditions:

1. Select the SVPST0 window
2. Select LD PROGRAM LOAD FRAME
3. Select LOAD FUNCTION **=>** 5 (SYSTEM DUMP)

The system dump stored on hard disk or cassette by the DUMP program is required for error diagnosis.

Afterwards, the BS2000/VM2000 system must be reloaded with the IPL.



Information on SLED operation can be found in the “Introductory Guide to Systems Support“ [6] manual.

8.1.3 Measures to take in the case of defective I/O channels or I/O processors

If an S130 channel or an added secondary I/O processor is defective, you can perform the following after consulting the service department:

- Disable defective I/O channel during operation.

 If an I/O channel has failed due to a hardware failure, it is automatically disabled. If not, you can disable it using the BS2000 command `DET␣*CHA(XX)`.

- Disable defective I/O processor during operation.

 If an I/O processor has failed due to a hardware failure, it is automatically disabled. If not, you can disable it using the BS2000 command
 `/DET␣*CHA(XX,YY)`
 when doing so, you should enter a list of channels CHPIDxx ,...,CHPIDyy; or enter a range of channels from CHPIDxx to CHPIDyy using
 `/DET␣*CHA-R(XX,YY)`

 You can continue processing with the other I/O processors until the repairs are carried out by the service department. This is only possible if you can reach the peripheral devices required for your work via non-defective I/O processors.

List of I/O channels:

IOP0 (channel processor CHP 0 and 1) channel range 00 to 7F

IOP1 (channel processor CHP 2 and 3) channel range 80 to FF

If the first I/O processor (IOP0) fails, system operation is no longer possible due to the lack of a console. If a logical console which works via the front-end processor and a functioning channel exists, the system can still be used.

- ► Execute IMPL and IPL after system crash with the defective I/O processor disabled by the SVP.

8.1.4 Measures to take in the case of processing unit failure



If the CPU is defective, you must contact the service department.

A high-availability module (HVZ), S130K-1H, is available for the S130 as a chargeable option.

S130 without the high availability module

If a CPU is defective for any S130 model without the high availability module and the CPU has not caused a system crash, the CPU is automatically disabled. If not, you can disable it with the BS2000 command `/DET␣*CPU(xx)`.

`xx` = number of the CPU: 00 to 07

You can then continue processing with reduced system performance without the defective CPU until the service department carries out the repairs.

A defective CPU can only be made available to the system via IMPL or IPL after repairs have been performed.

S130 with the high availability module

If the high availability module is installed on your S130-C, S130-E or S130-P, you can replace the defective CPU with the high-availability CPU.



A high-availability CPU can not be activated during system operation.

Please request support from the service department if you want the high-availability CPU generated. They will then activate the high-availability CPU as described below.

- ► Terminate your system with `/SHUTDOWN`.

- Once the message SHUTDOWN COMPLETED is displayed, switch the S130 to CE mode by switching the CE key on the inside of the maintenance panel of the S130 to the position “Maintenance Mode On”.

 The CE mode is indicated by the display CE on the control panel of the S130 (see page 12f) and in line 23 of the SVPST0 window on the SKP operating terminal (see page 40).
- Select the SVPST0 window on the SKP operating terminal (see page 36).
- Press the P2 key. It switches to CE mode in the Index Frame.
- Select the Generation Frame by entering the frame code GE and press the ENTER key.
- Enter 1 in the input field SETUP ITEM => to select the SYSTEM FEATURE and press the ENTER key.

 The following frame is displayed:

```
        ----- GENERATION FRAME:  SYSTEM -----          E02L01F-01Q+013
                      --- SYSTEM FEATURE ---
    MODEL => GS8600                FVC => 60   FMODEL => 8600
    TYPE  => /40                   IVC => 00   IMODEL => 3090
                  --- INSTALLATION (Y/N) ---
     CPU0 => Y     CPU1 => Y     CPU2 => N     CPU3 => N
     CPU4 => N     CPU5 => N     CPU6 => N     CPU7 => N
     MSU0 => Y     MSU1 => Y
     CHP0 => Y     CHP1 => N     CHP2 => Y     CHP3 => N
     IOPA0=> Y     IOPA1=> Y     IOPA2=> N     IOPA3=> N
     IOPA4=> Y     IOPA5=> N     IOPA6=> N     IOPA7=> N

                --- MULTI CLUSTER FEATURE ---
          DOMAIN SSU CAPACITY       => 00000000 (MB)
          GSIGP I/O RESET TIME-OUT  => 30 (SEC)




 UPDATE => N (Y/N)    PF3:RETURN  PF6:CANCEL  PF7:PAGE UP  PF8:PAGE DOWN
                CL-0       CPU-0 CHP-0        RUN
                                                        M  CE     TEST

LTG                                                    TAST
```

Figure 45: GENERATION FRAME: SYSTEM screen

- Enter Y in the field UPDATE => to modify the generation. Confirm your input by pressing the ENTER key.
- Enter N for the defective CPU and Y for the next available CPU. Confirm your input by pressing the ENTER key.
- Press the P3 key.
- Respond to the question DO YOU WANT TO SAVE SETUP DATA: ? in the subsequent frame with Y. Confirm your input by pressing the ENTER key.

- ► Press the P2 key to return to the Index Frame.
- ► Select the frame AU4 by entering the frame code AU4 and press the ENTER key.
- ► Select the IMPL function by entering 2 (IMPL activates the new setting) and confirm your input by pressing the ENTER key.

 Respond to the following prompt with Y and confirm by pressing the ENTER key.

```
**********************************
*                                *
* ARE YOU SURE ? (ENTER Y OR N) N *
*                                *
**********************************
```

- ► After IMPL has terminated (display of the MODE SELECTION frame in the SVPST0 #1 window), execute a IPL of the BS2000/VM2000 (see page 84).

Return the CE key to the position “Maintenance Mode Off“.

8.1.5 Measures to take in the case of defective MCU, SVP, SCI, PCI system components

When the MCU (Memory Control Unit), SVP, SCI (System Control Interface) or PCI (Power Control Interface) system component fails, processing cannot be continued with the S130.

If the failure of one of these components causes a complete system failure, you can carry out the following actions after consultation with the service department:

- ► execute an IMPL (AU4-FRAME)

 or

- ► switch off the S130 (AU4-FRAME) and then restart it (control panel, SKP menu).

If the shutdown and subsequent IMPL occur without failures, the IPL can be restarted with the BS2000/VM2000.

8.2 Problems with the service/console processor (SKP)

If you have problems with the SKP, contact the service department and discuss the steps to be taken.

Depending the outcome of this discussion, you may be required to do the following:

1. Reboot the SINIX system.

 Make sure that applications under SINIX, e.g. sysadm, have been terminated.

 Log in to SINIX under the ID root,
 enter the password,
 shutdown -i6
 or select “Exit system“ from the main menu of the window administration program, enter the password, select “Restart” and “Start” (see also page 22).

 If this is not possible:
 Switch off SKP with the OFF switch and then switch it on again.

 A /shutdown command is sent to BS2000 and it may be terminated (see also page 22f and the section entitled “up_down” in the “SINIX-2000 V7.0“ [1] manual).

2. After termination of the SINIX loading process, select the screen CONS0 #1 <computer name> again and log in with the password.

3. If the BS2000/VM2000 is still in operation, an automatic reconnect to the BS2000 console screen CONS0 is executed.

You can now continue to use BS2000 as described on page 89.

8.3 Important key combinations

If your mouse is not working, you can use the keys ALT + TAB to move between the windows of the X-Windows window system.

The following key combinations make your work easier:

CTRL + SysRq h	Switch from the window system to the SINIX login screen
CTRL + SysRq u	Return to the window system
ALT + SysRq h	Invoke login screen on console
ALT + SysRq P1	Invoke SINIX-Windows
ALT + SysRq P2	Invoke SINIX login screen
ALT + CTRL + DEL	Reboot command (SINIX not yet loaded)

Related publications

Please apply to your local office for ordering the manuals.

[1] **SINIX-2000 V7.0**
Installation, Operation and Administration
User Guide

Target group
This manual is intended for privileged users (operators, system administrators) of the service/console processor 3970-SKP, the channel adapter 3970-KAx, and the business servers C80-2 and SR2000.
Contents
The manual contains all the information required to ensure that the systems service/ console processor 3970-SKP/S110 and 3970-SKP/S130, channel adapter 3970-KAx and business servers C80-2 and SR2000 are ready for use. This includes helpful information on configuring the systems and a description of important functions for system operation and administration.

[2] **3970-SKP / 3970-KAx**
Operating Manual

Target group
The manual addresses privileged users (operators, system administrators).
Contents
The manual contains all the information required to operate the hardware of the Service/ Console Processor SKP 3970 and the 3970-KAx Channel Adapter.

[3] **SINIX/windows User Environment V3.0**
Introduction to Handling and Configuration
(SINIX Desktop)
User Guide

Target group
Users familiar with the basics of SINIX
Contents
The manual presents the components of the SINIX/windows desktop and shows how to operate the elements of the interface and interactively configure the desktop.

[4] **TELESERVICE - TSB2000** (BS2000/OSD Server)
User Guide

Target group
The manual addresses the operating personnel of the C50, C70, C80, H100, S110, S130 and SR2000 mainframes. Knowledge of BS2000 and basic SINIX knowledge are required to operate TELESERVICE.

Contents
Service technicians use TELESERVICE to support, maintain and perform fault diagnostics on customer systems from the TELESERVICE center. TELESERVICE permits rapid support by specialists, independent of geographic location and is the fastest method of response when problems occur. The TELESERVICE TSB component is the interface of the BS2000 system to the TELESERVICE center.

[5] **8323 Data Communication Unit**
SINIX
Data Sheet

Contents
The 8323 Data Communication Unit (DCU) makes it possible to interconnect display terminals, printers or computers with asynchronous interfaces via dialup telephone connections anywhere in the world.

[6] **BS2000/OSD-BC**
Introductory Guide to Systems Support
User Guide

Target group
This manual is addressed to BS2000/OSD systems support staff and operators.
Contents
The manual covers the following topics relating to the management and monitoring of the BS2000/OSD basic configuration: system initialization, parameter service, job and task control, memory/device/user/file management, assignment of privileges, accounting and operator functions.

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S130 Business Server

Operating Manual

Target group
The manual addresses privileged users (operators, system administrators) of the S130 Business Server.
Contents
The manual describes the hardware of the S130 Business Server insofar as it is required for system operation. In addition, all SVP frames are described which are of interest for system administration.

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